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USAA, this year's No. 1 Best Place to Work in IT, offers free access to three on-campus gyms at its San Antonio headquarters.

100 BEST PLACES TO WORK IN IT 2010

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FOR BREAKING NEWS, VISIT COMPUTERWORLD.COM

In a cyberwar, the nation-state that hits first is going to win.

PATRICIA TITUS, CISO, UNISYS CORP.
THE GRILL, **PAGE 14**

RESPONSES TO:

Career Watch: Q&A With David Foote

June 7, 2010

Absolutely on target. We (IT people) are all in new territory now, without a clear line of sight about where our jobs and careers are heading. I'm still trying to figure it out. I wish my employer could give me some ideas.
Anonymous

Most recent surveys of IT workers should be an eye-opener to management. IT workers feel overworked and underpaid. And these are the people that we can NOT send offshore. I still need my system admins to sometimes crawl under a desk or into the video conference system room and use their hands. I recommend that the IT girls and boys out there start to push back and get out on the streets for better jobs if they feel this pain at their employers right now!
Anonymous

JOIN IN!
You, too, can comment directly on our stories, at **computerworld.com.**

What are all these IT executives going to do when they realize that many IT pros have either given up or have moved on to greener pastures? They have treated IT workers like a contingent workforce for too long. Now has come the time to pay the piper.
Anonymous

RESPONSES TO:

IT's Human Energy Crisis

June 7, 2010

There seems to be a "run everywhere in any direction" mentality in IT these days. This is not just goading the workers on; it's headless non-leadership. It would be laughed at in the other industries, but somehow IT leaders get away with it. I am an IT leader, by the way, but not headless. My principles are:

1) Reflect before you act.

2) Your responsibility is to bring your experience to achieve IT goals with realistic deadlines and expectations. You are weak if you give in to demands from business at too low budgets and then kill your teams to achieve it, especially if you have the experience to know better.

3) Your workers are not like you. Their personal success does not rest on your success at pleasing your business leaders by being unrealistic and sacrificing their private lives doing it.

4) Most important, if you are running, you are most probably fear-driven.

It's up to you. You are a leader of IT. Authority will not be given to you on a plate from your business counterparts. Grab it. If you do, your team will respect you and your decisions will always be justified — and your teams will have spare energy for those difficult days.
Anonymous

Companies laid off too many workers and killed morale in the process. (Meanwhile, the deadlines and requirements escalated, unabated.)

Management should look directly into a mirror to discover who is to blame. This shortsightedness goes even further. I told my son to find a different career field (so he'll hopefully have more opportunity and be valued in a respected field).

IT as a career has been demeaned to the point of no return. All the yearly certifications won't put it back together again.
Anonymous

No, it's not good to have constant, irrational griping, but some judicious, rational and constructive griping (in private) is absolutely necessary. It's easy to suppress dissent by calling it "negativity," and by firing or otherwise punishing "troublemakers," but the likely result will be an IT staff afraid to tell the boss the truth as they see it, and an uncritical groupthink that won't stop and think hard before disaster strikes.

Team players are good, but honesty and critical thinking are better.
John L. Ries

CORRECTION

In the May 24 column **"Certifications Are a Stop on the Road to Licensing,"** Bart Perkins stated that "the Association for Computing Machinery supports the concept of licensing but has withdrawn from that effort." This is incorrect. The ACM does not support licensure.

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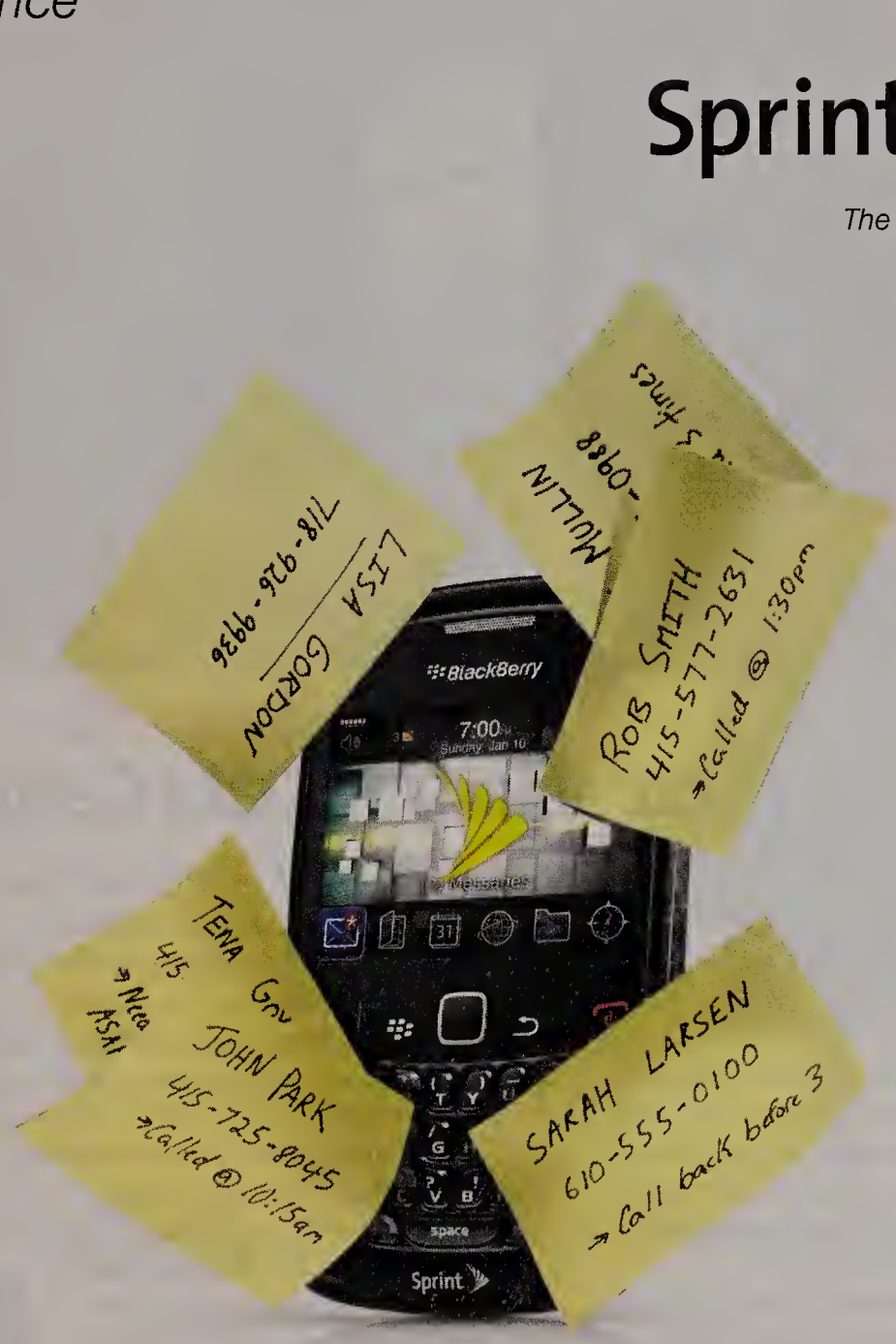

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INFRASTRUCTURE

Taiwan Eyes Containerized Data Centers

TAIWAN, known for slashing the prices of PCs by using low-cost commodity parts, plans to apply the same principle to halve the cost of containerized data centers.

The country's publicly funded Industrial Technology Research Institute (ITRI) aims to create a standard way of building data centers inside 20-foot shipping containers, an idea popularized in 2006 by Sun Microsystems Inc.'s Project Blackbox.

As the use of containerized data centers subsequently gained ground, companies such as Microsoft Corp. suggested a need for standard components inside those containers. The ITRI wants to develop a standardized container data center that costs half as much as today's systems, is easier to use and saves energy.

"We hope to have a prototype available by the end of the year," said Tzi-cker Chiueh, head of the ITRI's Cloud Computing Research Center, during a speech in Taipei earlier this month.

The ITRI's design includes servers made with commodity parts to keep costs down, plus software tools for managing the data centers.

The hardware inside the shipping container, called Container Computer 1.0, will include thousands of servers, Chiueh said. The software suite, called Cloud Operating System 1.0, will include virtualization, security, storage and system management tools from VMware, Tivoli, Check Point, EMC and Dell.

The ITRI hopes Taiwan's hardware makers will benefit by supplying the servers and other components.

– Dan Nystedt, IDG News Service

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HUMAN FACTORS

Do Multitouch Devices Cause Physical Stress?

Multitouch interfaces are gaining popularity, but little is known about whether the finger flicking done on devices like the iPad or iPhone put undue stress on our bodies.

A team of researchers led by Kanav Kahol of Arizona State University is beginning to study whether long-term use of multitouch devices could lead to musculoskeletal disorders. The team, supported by a $1.2 million National Science Foundation grant, includes computer interaction researchers, kinesiologists and ergonomics experts.

"Multitouch systems might be great for usability of a device, but we just don't know what it does to our musculoskeletal system," said Kahol, an assistant professor in the university's Department of Biomedical Informatics, in a statement earlier this month.

Initially, users will be fitted with electromyography equipment to measure muscle forces and with cyber gloves to record their hand movements while they interact with multitouch systems. A second phase of the project will involve the development of biomechanical models that show how much stress is created by certain gestures.

"We would then take this data back to the Microsofts, the Apples and other manufacturers so they could use it when they are designing new devices," Kahol explained in the statement.

– MITCH BETTS

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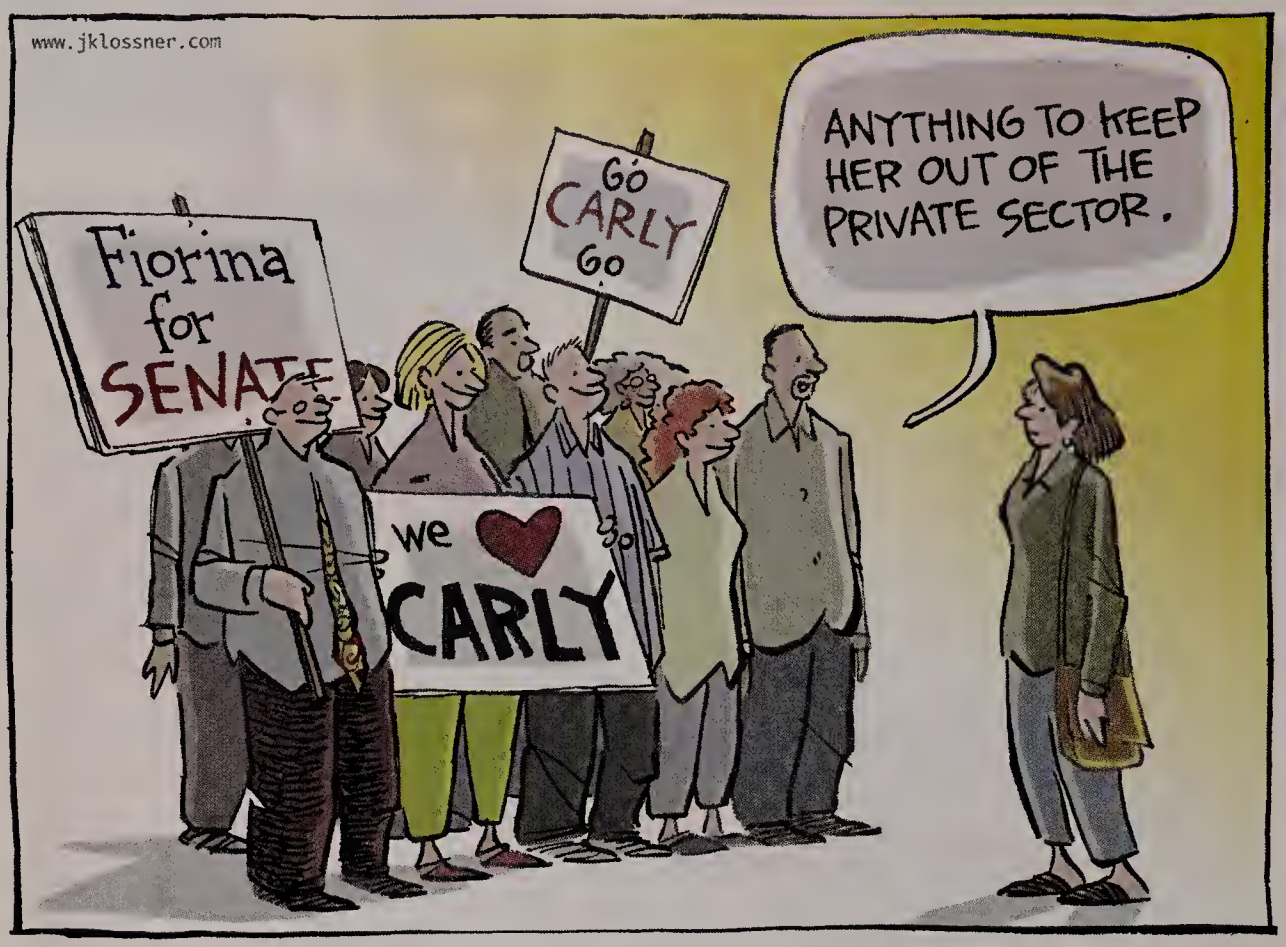
By John Klossner



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INNOVATION

Analytics Projects Among IT Honorees

SEVERAL ORGANIZATIONS won awards in this year's *Computerworld* Honors program for developing innovative ways to use data analytics to improve public services.

For example, the Alameda County Social Services Agency in Oakland, Calif., installed an IBM business intelligence system with a dashboard to help caseworkers keep track of their 250,000 clients.

The organization won a 21st Century Achievement Award in the government category. The awards, which honor the use of IT to benefit society, were announced in a Washington ceremony earlier this month.

Previously, the agency was, "like all companies, data-rich and information-poor," said Don Edwards, the assistant agency director who also oversees IT. "We had a desperate desire to improve the outcome for the children in our care."

In the education category, Alabama's Mobile County Public Schools won an award for a data analytics project that quickly identifies students at risk of failing, so that educators can take fast remedial action.

Other award-winners included the following:

- Rave Wireless Inc., which delivers SMS text messages to college students in case of campus emergencies.
- Poland's Institute of Physiology and Pathology of Hearing, for a videoconferencing system that supports follow-up care for remote patients who have had cochlear implant surgery.
- Starwood Hotels & Resorts Worldwide Inc., for developing an innovative hotel reservation system.
- Lifespan Corp., which developed an emergency satellite communications system that can be set up in 20 minutes at disaster sites, providing phone, Internet and radio hookups.
- The U.S. Department of Homeland Security, which built the world's fastest and biggest biometric identification system for border security and immigration management.

– Mitch Betts and Patrick Thibodeau

OUTSOURCING

Indian Firms Seek Low-Cost Rural Workers

India's outsourcing companies are clamoring to locate back-office operations in the country's small towns and villages to tap a low-cost labor pool, said Som Mittal, president of India's National Association of Software and Service Companies.

The outsourcers are faced with high staff attrition rates and rising wages in cities such as Bangalore, so they're turning to educated people, including engineering graduates, living in rural areas.

Companies are likely to break up projects and send simpler work to rural outsourcing centers, Mittal said. Customers don't care if the work is delivered from the cities or rural areas, provided the quality of service is maintained, he added.

The Indian government's plan to increase broadband Internet access in rural areas will boost the outsourcers' efforts to set up operations in small towns, Mittal said.

The challenge for big outsourcing companies will be to shift from a delivery model based on a large number of staffers in a few large facilities to a model that has employees dispersed in many small centers in multiple locations, said Sridhar Mitta, founder of NextWealth Entrepreneurs in Bangalore.

– JOHN RIBEIRO, IDG NEWS SERVICE

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NEWS ANALYSIS

IT Mergers Resume As Cloud Use Rises

Fearing that increased consolidation could lead to vendor lock-in, some users are looking to the cloud as a more open alternative. By Patrick Thibodeau

AT THE ONSET of a stifling recession in the fall of 2008, the IT industry entered a new, rarely seen era in which merger activity virtually ground to a halt.

That turnaround came abruptly, less than a month after Hewlett-Packard Co.'s $13.9 billion acquisition of Electronic Data Systems Corp. in late August of that year. On Sept. 15, Lehman Brothers Holdings Inc. filed for bankruptcy, the Dow Jones industrial average plummeted 504 points, and HP itself announced plans to cut more than 25,000 jobs.

By the first quarter of 2009, the value of tech deals was $3.1 billion — far less than usual, according to PricewaterhouseCoopers.

It took almost a year for major IT merger activity to resume. In back-to-back September 2009 announcements, Dell Inc. agreed to buy Perot Systems Corp. for $3.9 billion, and Xerox Corp. agreed to pay $6.4 billion for Affiliated Computer Services Inc. By January, Oracle Corp. had closed a $7.4 billion deal to buy Sun Microsystems Inc., and in April, HP completed its $2.7 billion acquisition of 3Com Corp.

While the renewed activity could prove beneficial to the economy, users fear that significant consolidation could increase vendor lock-in, and that's prompting some to consider shifting to cloud-based systems.

> "A world where there is not much competition is a problem."
>
> **PHYLLIS KOCH,** IT DIRECTOR, BOYNTON BEACH, FLA.

Pros and Cons

"A world where there is not much competition is a problem, certainly for public-sector buying," said Phyllis Koch, director of IT for the city of Boynton Beach, Fla. "I guess I'm torn. It's easier as an IT director not to have lots of different products, because then I become the integrator, as opposed to the company being the integrator for me."

Nonetheless, the Boynton Beach government has made limited cloud moves that Koch said should help the city avoid vendor lock-in and make it easier to implement new technologies.

For instance, Boynton Beach has hired SunGard Data Systems Inc. to run its AS/400-based ERP system, which could ease any move to a new platform such as the x86, she said.

"I'm not concerned as long as healthy competition remains," said Jo-ann Olsovsky, technology services vice president and CIO at BNSF Railway Co. "We do our best to standardize and streamline the products we use, so certainly having fewer vendors can eliminate the complexity in our infrastructure."

She noted that large vendors have been strategically acquiring technology via mergers for years.

Andy West, a principal in McKinsey & Co.'s merger management practice, predicts "a coming wave" of acquisitions, citing the relatively high number of public companies and today's relatively low average sale prices.

Cross-segment acquisitions, such as a storage firm buying a networking company, are the most likely moves in a technology market that "continues to be ripe for consolidation," he said. ◆

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Fire boats combat the blaze on the Deepwater Horizon oil rig in April.

NEWS ANALYSIS

BP Fails to Exploit Web 2.0's Potential

More-effective use of social networks could have helped the beleaguered oil company better communicate with the world. By Sharon Gaudin

BP PLC has mostly failed to take advantage of an unprecedented opportunity to use social networks to at least partially blunt a public relations nightmare that started two months ago when an oil rig exploded in the Gulf of Mexico, causing a massive spill.

"They're playing by old rules," said Patrick Kerley, a senior digital strategist at Washington-based PR and crisis communications firm Levick Strategic Communications. "Dealing with a crisis has totally changed because of social media. They didn't get that."

BP has been taking a public thrashing not only for the environmental and economic disasters caused by the oil spill, but also for what some critics call a lack of honest communication with the public.

The company apparently had no strategic plan in place for using social networks to defend its response to a crisis. "It's too late for companies if they don't use social media right away when a crisis strikes," Kerley said.

BP's minimal presence on Facebook and Twitter has proved to be mostly worthless because it lacked a crisis plan. In fact, the top social networks for the most part have done BP more harm than good in recent weeks, analysts said.

For instance, a search for BP on Facebook is far more likely to produce "Boycott BP" pages — one of which had more than 640,000 followers as of last week — than the oil company's own pages. And a phony BP Twitter account that pokes fun at the company has more than 170,000 followers, whereas BP's official Twitter account has about 15,000.

"Companies have to realize that they need to be proactive and generate a social media audience in peacetime and let people affiliate with the brand," Kerley said.

Dan Olds, an analyst at Gabriel Consulting Group Inc., said social networks can be a double-edged sword for companies trying to get through a public crisis. If used well, they can help get important messages out to the public. If not used well, they can badly hurt a business's reputation.

The BP affair could prove "very instructive for companies needing to handle problems like this in the future," said Olds. "I can't think of another company that has faced as big a crisis as BP since the advent of social media." ◆

> "Dealing with a crisis has totally changed because of social media. They didn't get that."
> —PATRICK KERLEY, SENIOR DIGITAL STRATEGIST, LEVICK STRATEGIC COMMUNICATIONS

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THE Grill

Patricia Titus

The **security maven** wants criteria for acts of cyberwar.

Most interesting thing people don't know about you: I used to copy Morse code for the U.S. Air Force in the early '80s and can still remember much of it.

Favorite nonwork pastime: Gardening. I love to dig my hands into the dirt, plant something and watch it grow. My favorite is growing herbs and flowers that attract bugs, butterflies and birds to our backyard.

Recent good read: I like to read for pleasure, and right now I'm stuck on *The Twilight Saga* by Stephenie Meyer.

Favorite movie: My favorite movie still is *Independence Day* with Will Smith. Remember they wiped out the aliens by injecting the mother ship with a computer virus?

AS THE *first chief information security officer at the Transportation Security Administration, Patricia Titus got a rare opportunity to build an information security organization from scratch. Titus, who is now CISO at Unisys Corp., talks about the advantages and disadvantages of such an opportunity, and the broader challenges involved in defending U.S. interests in cyberspace.*

What was it like heading up IT security at the TSA? The challenge in the early days was getting leadership to recognize that even though we were deploying very rapidly, we needed to keep security in the forefront. When I started at the TSA, I was actually a wireless program manager. When I complained that there was no one doing security, they promptly assigned that to me. I was given security as a collateral duty, and eventually, after about six months, the CIO said, "You are going to be our new

Continued on page 16

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> **In a cyberwar, the nation-state that hits first is going to win.**

Continued from page 14

CISO." The challenge was in coming up with a brand-new operation and coming up with policies that were not based on old, antiquated legacy concepts. What we clearly understood was, our environment was so different from the other agencies that we really needed to start completely from ground up with new technologies and with new policies based on a set of standards where you really didn't have to worry about legacy systems.

Was starting from scratch an advantage or a disadvantage? It was a benefit for me to be able to look at things differently and to form an organization the way it needed to be formed. It was very different from the way security offices were in government departments that have been around for years and years. But it was also a challenge trying to change the culture and mind-set of several people and executives who had been in government a long time and had always done things [a particular] way.

We keep hearing about cyberwar, state-sponsored attacks and intrusions into government networks and systems. What's happening? First of all, it's not just government, it's also the agencies and corporations that support the government. What needs to be looked at is critical infrastructure in general. We are constantly doing tactical firefighting, and I think more offensive capabilities need to be built that give us early warning and allow us to respond when these attacks happen.

Respond how? As Americans, we have a tendency to respond to attacks versus putting up preventive capabilities. When it comes to any sort of cyberattack, we still have the old mind-set: Where they have a nuclear weapon, we have a nuclear weapon. They push a button; we push a button. I think we need to have a different mind-set. With technology, we need to have innovation that allows us to have offensive capabilities. I don't think that the U.S. has taken that stance before. It is a very difficult stance to take, just in general, looking at cyberspace and how it works.

Does cyberwar merit a military response? We need to be able to take immediate steps, and in some instances, we need to be the first. In a cyberwar, the nation-state that hits first is going to win. It's not like a traditional war where you send some troops and guns — you might lose a little bit of ground sometimes but end up winning the war. In cyberspace, if your systems are taken offline, you are offline, period. The downside to launching first is that it is a declaration of war. That's something this administration is going to have to define clearly. What constitutes an act of war, what constitutes a threat, and what constitutes intent? Those things have to be clearly defined.

What's your assessment of the Obama administration's handling of cybersecurity affairs? I think they have done a good job. It's hard to assess all that's being done behind the scenes, because I am not inside the government anymore. But I do think they are making tremendous progress. They are reaching out through public-private partnerships. They have asked for feedback from industry on writing the strategies that need to be implemented. That's something that industry has not had as much input into in the past, with previous administrations.

There aren't too many women in the information security arena. Why do you think that's the case? I think women have a tendency to be more risk-averse than men, and the IT security field is a very risk-ripe career field. I think we could encourage more women, more individuals, to go into the IT security field just based on executive leadership. So the same leadership I had at TSA, where the assistant secretary was very aware and very strongly supportive of my office — I have that same commitment here at Unisys from our CEO. So I don't feel like I'm at risk like I would in an organization where I didn't have that kind of executive sponsorship.

Do you see more women in the IT security field than when you started your career? I absolutely do. I think the community of women in the IT security field is coming together, and we are supporting each other much the same as people in other fields.

You were voted Woman of Influence by the Executive Women's Forum last year. What did it mean to you? That was amazing to me to be recognized by my peers as a leader and as someone who is influencing direction. That was a great honor. I hope that I continue to live up to that award and continue to influence other women to go into this field.

– *Interview by* **Jaikumar Vijayan**

MIT Sloan Management Review

An *MIT Sloan Management Review* Supplement

Ignore Technology

(Then Put It Everywhere)

Two leading IT strategy experts from MIT on what CIOs need to know about the opportunities—and threats—of a world where evolving technology enables companies not only to ***be*** smarter, but to ***act*** smarter, too

From the Editor-in-Chief, *MIT Sloan Management Review*

Smart companies are racing to find new ways to capitalize on exponentially increasing computer power, storage capacity, communications speed, and "smart-world" instrumentation. They're finding better ways to make innovation happen every day.

But the key, says Jeanne Ross, is for companies to start by ignoring technology.

Really, she says. Ignore it.

Strange advice, coming from the director and principal research scientist at the Center for Information Systems Research at the MIT Sloan School of Management. But that's the best way to let IT work for you, she says. Companies, Ross argues, need first to figure out what kind of value they want to create before they can usefully consider how IT can help them create it. They need to trust themselves—and trust technology and their CIOs—to work backwards from the vision of how they want to operate and what they want to be.

Moreover, it doesn't matter whether your business is science-oriented, tech-oriented, media-oriented, people-oriented, or far-off-the-grid-oriented. Andrew McAfee, research scientist at the Center for Digital Business at the MIT Sloan School, says that if you're not now using data and scientific analysis to back up intuition when making a decision, you soon will be.

The following conversations with Ross and McAfee make up the first in a series of special editorial sections created by the editors of MIT Sloan Management Review as they explore the shape of "The New Intelligent Enterprise." The goal of the series is to provide strategic insights to IT leaders about how to address the challenges and opportunities presented by the ever-evolving nature of what technology can do. This first section draws on the expertise of leading MIT faculty members; coming sections will feature insights from top corporate executives.

— Michael S. Hopkins,
Editor-in-Chief, *MIT Sloan Management Review*

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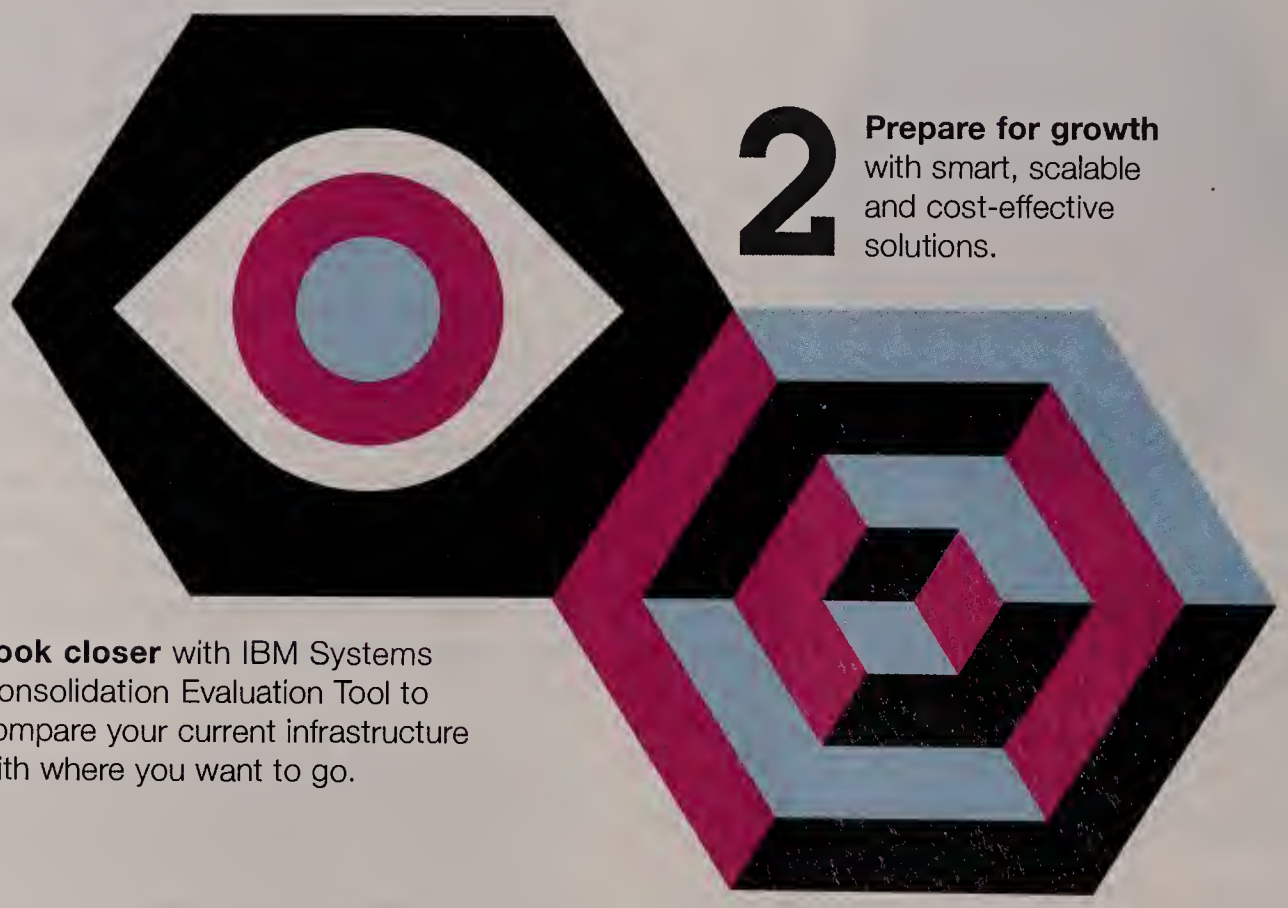

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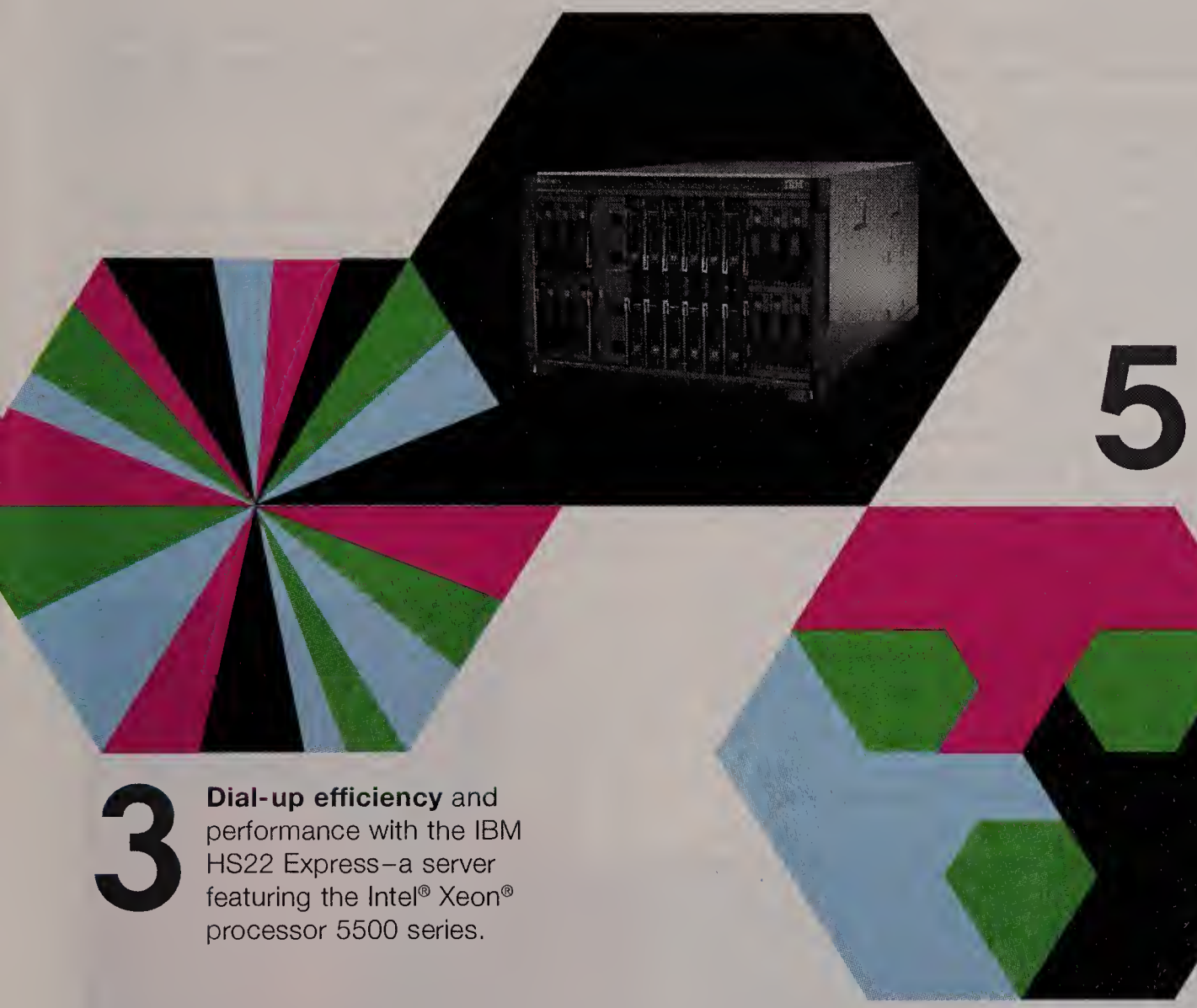

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JEANNE ROSS

Why Heroes are Bad

MIT technology strategist Jeanne Ross tells why technology will underpin everything, become a bigger business driver than ever, and lift the significance of the CIO—but shouldn't be the first thing an organization thinks about.

Jeanne Ross

CIOs will become business process engineers. And IT managers are perfectly positioned to do this because their entire lives have been spent understanding processes as they've implemented technology to support them.

CIOs are now asked not only to ensure that IT works seamlessly while cutting costs, but *also* to drive growth. What changed?

Several things. What tends to happen is that non-CIOs running an organization look at competitors and start to get their arms around what information-related innovations are possible. They don't fully see the opportunities, but they see that what's ahead is going to be an IT-driven phenomenon. They decide that their current data won't get them there. And they turn to the CIO and say, "Fix it." Or a company has made an acquisition and they've been talking about cost savings, as well as promising new services to customers. They bring the new company on and say, "Well, how are we going to make this happen?"

It used to be that a lot of people found operations uninteresting. But there's been a slow recognition that success is not just about finance, say, or building the right portfolio of companies. It's about getting operations right.

And IT becomes the path to operations success?

Actually, I think companies are better off not thinking about technology. Stop framing it as, "What will technology let me do and then I'll figure out what I want to do with my business." You used to have to do that, but you don't anymore. Now you can imagine how you want to run your business and then ask how technology can get you there.

At this point, if there's something you really want to do, somebody will be able to help you find a technology that will do it. And it will probably be affordable. The more fundamental question is a matter of sitting down with the smart people that are already inside the company and asking, "How can we operate?" This is a decision you have to make. You have to put a stake in the ground and start building a foundation for it.

But you're an IT person, and it sounds like you're saying IT is secondary.

Yes, I am telling you to ignore the technology. "Ignore" is a strong a word, but because people are so crazy about IT now, I think it's the right advice. Ignore the technology. Think about how you would like to run your business.

What's the role of CIOs, then? What should they be doing to ensure they play a valuable strategic role in leading companies to capitalize on what IT now can do?

The CIO will continue to have responsibility for technology because somebody has to be thinking about what's possible and what experiments to run. Marketing people can do this, but they're usually more comfortable if they have a technologist working with them.

To enhance a company's strategic decision making, though, the most important thing CIOs can do is to provide clarity around the operating model. It used to be that IT managers did whatever each individual business unit manager wanted. Now they're saying, "IT is about how we function as an enterprise." Even though you wouldn't think that's new anymore, it's like they've learned it again. The big evolution for CIOs will be the ways they take on responsibility for business processes in organizations. They need to become business engineers. It's a special skill set to

Managing change of behavior is much bigger than managing change of the technology.

figure out how to bring together a company's whole portfolio of existing skills in IT and in the business and how to engineer processes that are implementable and valuable. It's really hard.

But IT managers are perfectly positioned to do this because their entire lives have been spent understanding processes as they've implemented technology to support them. IT people now talk about "our level one processes" and "our level two processes." They have that recognition of what technology capabilities have to be built underneath things.

As IT leaders become end-to-end business engineers, creating new collaboration across units, what business benefits have you seen result?

There are many. One critical one is that data sharing across units enables a company to present a single face to the customer. Increasingly, global companies are insisting that their suppliers provide a single point of contact for sales and support. Companies that can't share customer and product data find it difficult to meet this type of customer demand.

To recap: you're saying, Ignore IT and design the business operation. But you're also saying, You know who's good at this? The person who's spent all his or her time thinking about IT.

You're right. And the biggest dilemma is that if I'm CIO and you tell me exactly how you'd like the business run, my job is to admit that our existing technology is an obstacle, map out a new direction, and get you to accept that it will happen much slower than you want.

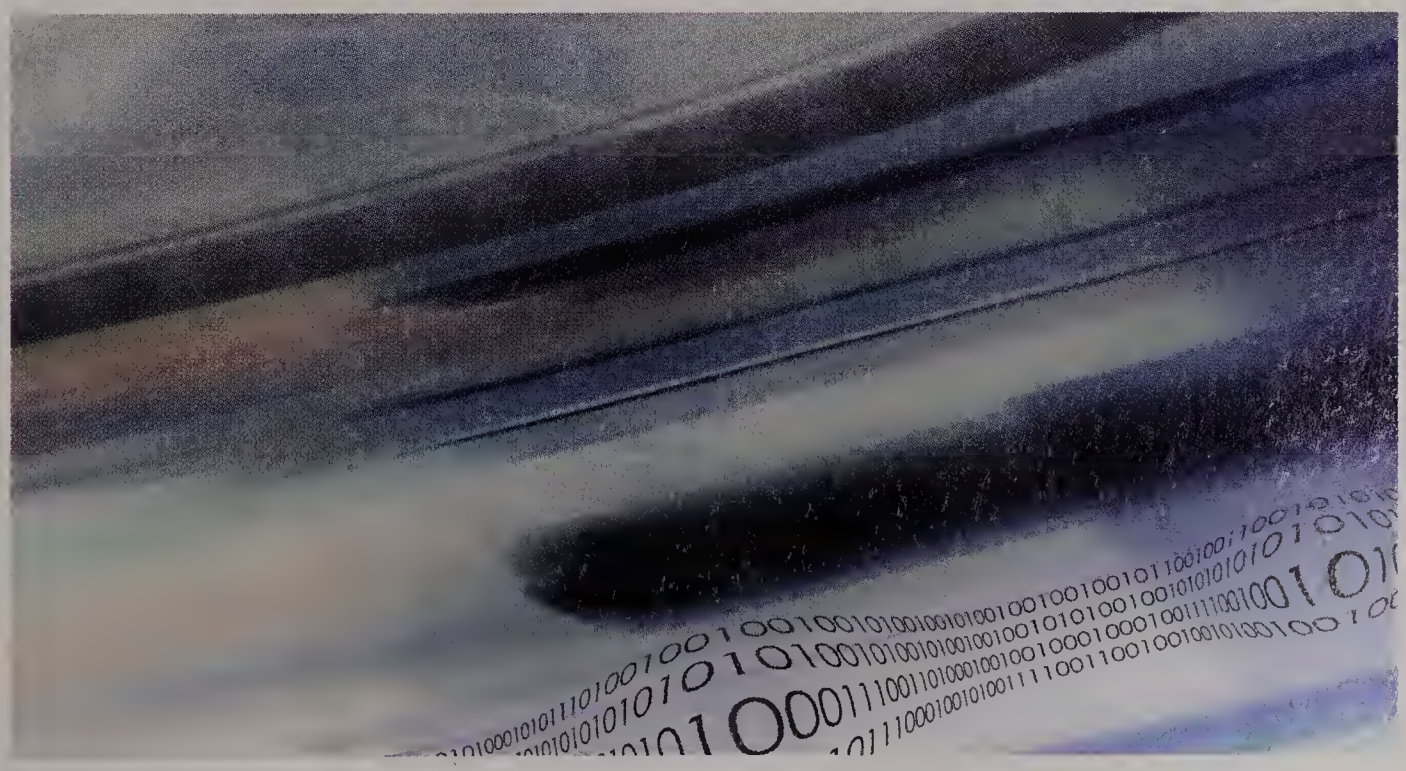
The most important thing for CIOs to do is to find high impact things to do near-term while they're pursing the longer-term. Find one thing the company can do now that's going to make a difference and get the momentum going. That is a gift. Not all CIOs can do it. Their inclination is just to say, "Oh, my God, this is such a mess. Here's the five-year plan."

Managing change of behavior is much bigger than managing change of the technology.

Is there a behavior-change challenge that organizations especially face?

As we steer toward more automation, more standardization across the enterprise, more data sharing, we're increasingly going to have to stop people from performing heroics in the workplace. We used to rely on people to be heroes. We'd say, "Do something brilliant and whatever the customer wants." That's just not going to work in today's world. Because we need things that work across the enterprise, and heroism is too unpredictable. When the right hand doesn't know what the left hand's doing, it just messes up everybody else. Your heroics become my problem.

So heroics are out. What's in is a conception of the organization and you as a team. If you have to do something heroic, you better make sure everybody knows what you just had to do. As companies get better and better, they'll call for those heroic behaviors less and less.



Redefining X.

When an organization needs more computing power for today's memory-intensive workloads, the conventional wisdom is to buy more servers. This can lead to massive inefficiency and server sprawl, with the majority of servers today running at only 10% utilization[1]. As the computational demands of a smarter planet continue to explode, this sort of inefficiency has become a problem—a problem IBM engineers have now solved. The 5th generation of Enterprise X-Architecture® from IBM featuring the Intel® Xeon® Processor 7500 Series lets you add memory independently of the processor. As a result, IBM eX5 systems can leverage 6x more memory than current x86 servers, reduce storage costs by up to 97% and cut licensing fees by 50%.[2]

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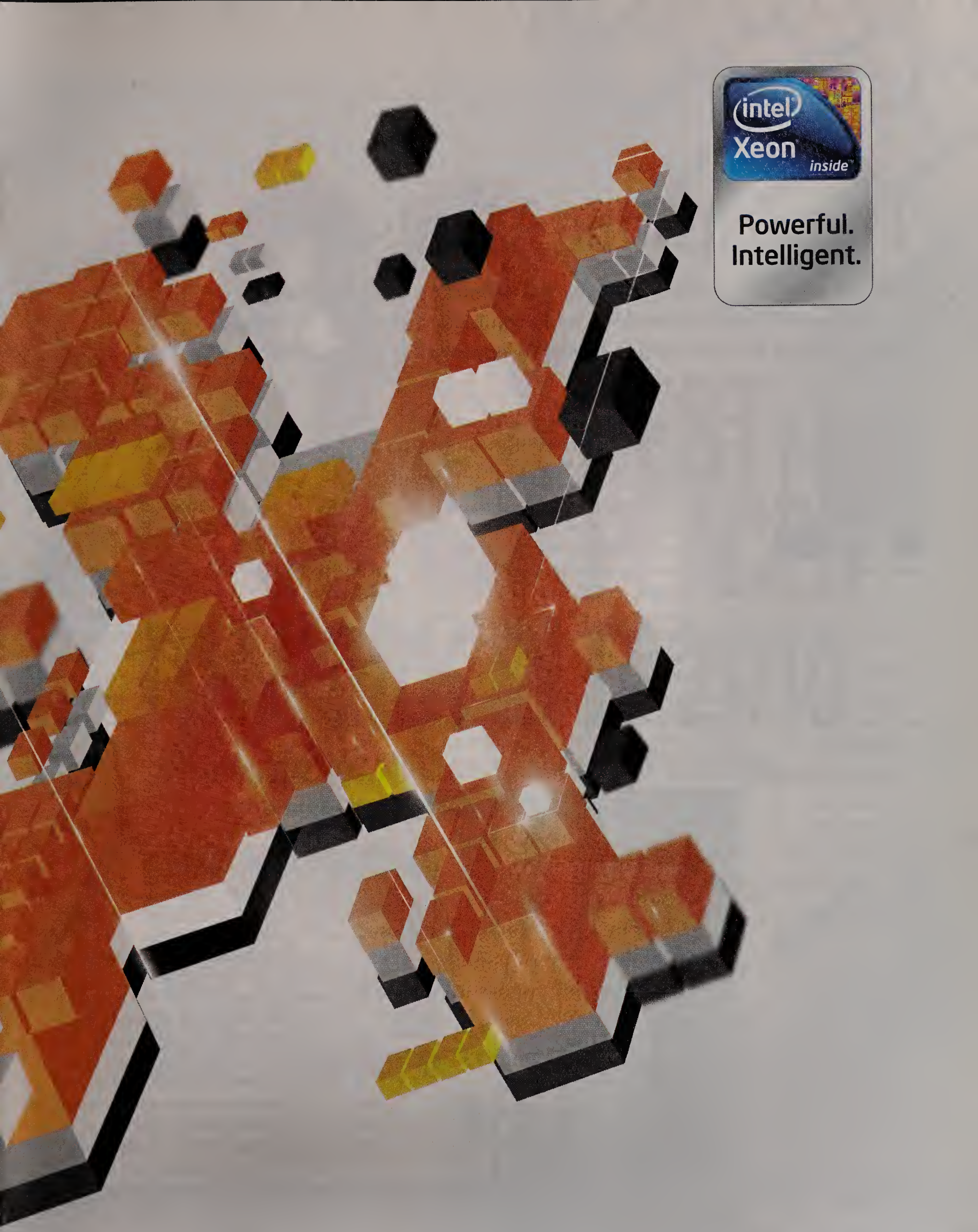

1. McKinsey study: http://www.datacenterknowledge.com/archives/2009/04/15/mckinsey-data-centers-cheaper-than-cloud/. 2. Comparison of IBM System x3850 X5 + MAX5 with total 96 DIMMs x 16 GB for total 1.5 TB of memory vs. IBM System x3850 M2 with 32 DIMMs x 8 GB = 256 GB. Comparison of processor-based licensing fees on current Generation 4 processor systems with 64 DIMMs vs. the IBM System x3690 + MAX5. IBM eXFlash technology would eliminate the need for a client to purchase two entry-level servers and 80 JBODs to support a 240,000 IOPs database environment, saving up to 97% in server and storage acquisition costs. IBM, the IBM logo, ibm.com, X-Architecture, Smarter Planet and the planet icon are trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. A current list of IBM trademarks is available on the Web at www.ibm.com/legal/copytrade.shtml. Intel, the Intel logo, Xeon and Xeon Inside are trademarks or registered trademarks of Intel Corporation in the United States and other countries. © International Business Machines Corporation 2010.

ANDREW McAFEE

The Scientific Mindset

Of all the ways that changing technology capabilities will remake organizations, says MIT's Andrew McAfee, none is as big as the transition from intuition-based decision making toward an approach based on science.

Andrew McAfee

As one former CEO of a tech giant told me: 'If only we knew what we know, we'd be three times as productive.' When work takes place only within silos, there's going to be a lot of redundancy and waste.

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What's the most significant management shift that evolving IT capabilities will drive?

It's really hard to understand what new possibilities have opened up and what important constraints are gone because of the cornucopia of technology that we're sitting on. One of the biggest changes is that when you have this unbelievable amount of computing horsepower and a mass of data to apply it to, you can be a lot more scientific about things. You can be more rigorous in your analysis. You can generate and test hypotheses. You can adopt a much more scientific mindset.

If you don't try to migrate your company and your decision-making in that direction, you're missing out on a huge opportunity, and you had better hope your competition is also not moving in that direction. Because when you compare scientific to pre-scientific approaches, there's one clear winner over and over.

What actions should IT managers take to ensure they prove valuable in their organizations as leading drivers of the transition to the "scientific" Intelligent Enterprise?

IT leaders can do two important things. First, they can explain to their business-side colleagues both why and how information technologies are changing the company and competition—in other words, how enterprises are becoming more scientific thanks to technology. Second, they can help their colleagues make important decisions by presenting and explaining available options and making recommendations. The technology landscape is constantly changing, and is alien and confusing to lots of executives. IT leaders can help them by presenting technology options, discussing them in business terms, and essentially reducing a seeming infinity of tech choices down to a small set of business decisions.

A lot has been said about IT's unique span-the-silos role in organizations. What business benefits have you seen result from IT-driven increased collaboration among business units (or among business roles)?

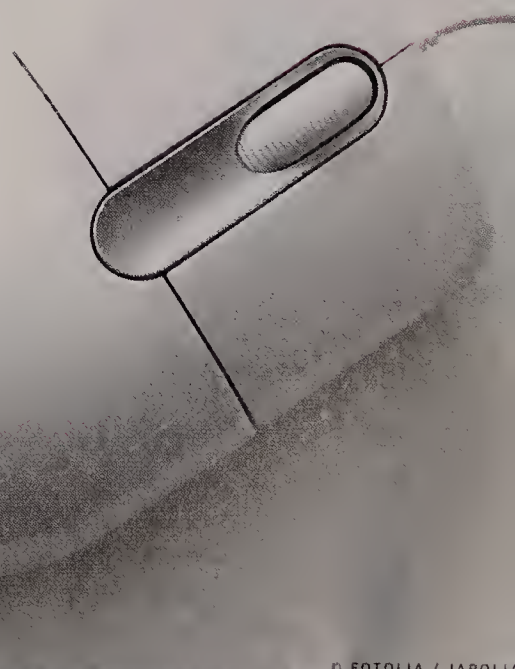
As one former CEO of a tech giant told me: "If only we knew what we know, we'd be three times as productive." When work takes place only within silos, there's going to be a lot of redundancy and waste.

It's also going to be hard to locate the people who could be good colleagues—who could solve a problem, answer a question, make an introduction, etc. The IT function is responsible for the only corporate asset that spans the entire company: the technology infrastructure. So IT leaders should absolutely be in the vanguard of those driving better collaboration. They should be spreading the gospel that a more collaborative application is a more productive organization, and helping a company to know what it knows.

100 BEST PLACES TO WORK IN IT 2010

Killer perks, flextime, oodles of training. The IT staffs you'll envy

THE TOP 5	
1	USAA
2	Booz Allen
3	JM Family
4	General Mills
5	UPenn



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The IT team at top-ranked USAA (from left to right): Marissa Andrew, Michael Bueche, Ron Garza, Marty Peña, CIO Greg Schwartz, Kris Koehler, Sara Welch, Michael Lonigro and Weymar Camargo.

NO. 1 USAA

It's a benefits bonanza here, but IT workers also enjoy expansive career options and limitless prospects for innovation. By Julia King

IN FEBRUARY, Michael Lonigro, an IT technical manager at USAA, received a record-breaking performance bonus equal to 18.8% of his annual salary. So did every other USAA employee, thanks to the San Antonio-based financial services company's stellar 2009 performance. The big payout came less than 90 days after USAA staffers received their regular holiday bonuses, which have been awarded to every worker every year since 1930 and equalled two weeks' base pay.

All 2,087 IT workers — and every other full-time employee — also receive a generous benefits package that includes health insurance subsidized at the rate of 87.5% and an additional $3,000 per year for out-of-pocket medical expenses. On top of that, USAA offers a variety of free health screenings, free access to three on-campus gyms, 24 days of vacation after a year on the job, and a tuition reimbursement benefit of $10,000 annually.

PHOTO: KARL GERBER

Yes, that's $10,000 with a ten and three zeroes. Little wonder USAA hit the No. 1 spot on *Computerworld*'s Best Places to Work in IT list, after making the list for 11 consecutive years.

"The benefits are just wonderful. The health care plan is outstanding. We are very, very well taken care of," says Lonigro.

All told, USAA spends more than $400 million annually on employee benefits programs. Other perks include subsidized child care, a $5-an-hour errand service, and dollar-for-dollar matches of employees' 401(k) contributions up to 8%, plus an additional retirement contribution of up to 9% of an employee's pay.

Yet pay and benefits typically don't get first mention when employees are asked what makes the company a great place to work. Lonigro, for example, answered that question by saying, "When you read about USAA, it's always positive. It gives you the sense you're doing some good. The commitment to our members is paramount, regardless of who you talk to in the organization. It makes me feel proud to work for a company that's so dedicated to its members."

History of Service

With 7.4 million customers, USAA now offers a wide range of financial services and products to U.S. military members, veterans and their families. Companywide, USAA's 21,300 employees — about 20% of whom are veterans or spouses of active military personnel — seem to have a passion for providing exemplary service to this particular customer segment, often referring to their work not as a job but as a mission.

> When we bring in college hires, we tell them to feel free to start asking questions and coming up with ideas to improve things fairly quickly. In fact, it's expected of them.
>
> **MICHAEL LONIGRO,** IT TECHNICAL MANAGER, USAA

Within IT, this zeal for service translates into a laser focus on quality and innovation. For example, each month, the CIO awards a highly coveted Quality Cup award in four categories: large and small development projects, enhancements and operations. Winning the cup entails earning points under a sophisticated scoring system. CIO Greg Schwartz delivers the cup personally to the winning teams, which are recognized for completing projects with the fewest defects.

That emphasis on quality played a big role in Kris Koehler's decision to return to USAA after leaving the company to work somewhere else.

Quality standards were "a lot less rigorous" at his new employer, and "I started missing and appreciating the things I had left behind" at USAA, says Koehler, a technical manager who had left for work/life balance reasons after more than eight years at the company.

"I was in a role where it was a lot of night and day work, and I was on call a lot," Koehler explains about his first stint at USAA. "But things have changed," he adds, citing the flexible staffing model USAA adopted in 2008 to finish software projects faster and improve employee work/life balance. Under the plan, international consultants who are part of USAA's offshore Availability Command cover some of the shifts involved in running a 24/7 operation.

"The problem I was having kind of fixed itself," says Koehler.

As for innovation, the numbers tell it all. For every dollar invested in IT, 50% is invested directly in new functionality. IT employees also have access to an innovation lab where they can design and test ideas before moving them to full-scale development. It was here that two new USAA offerings — a system for depositing checks using a home PC and a scanner, and a tool for depositing checks using an iPhone — were conceived.

IT workers say this focus on innovation, the breadth of technical and managerial career opportunities, and the relative ease with which they can change roles — to learn new skills, change professional direction or give their career a boost — all contribute to loyalty to USAA.

Marty Peña is a prime example. Now an IT technical manager, she joined the company in 1994 as an accounting intern. Four years later, she moved to IT, advancing through various technical and analytical jobs before ascending to a managerial role.

"There's such varied job opportunities if and when you want to try something different," says Peña. "You can work on the business side or do project management or code if you want, or be an engineer and work with databases."

The average tenure of USAA's IT employees is 10 and a half years, and the company has a keen focus on recruiting college graduates.

"Fifty percent of all hires we make in a calendar year come from universities," says Schwartz. "We absolutely recruit for careers. That is our workforce strategy."

Sara Welch, 24, a software developer and integrator, joined USAA in June 2008, right out of Northwestern State University. USAA was one of several top companies she considered joining.

"I came in wanting to work in [IBM's] WebSphere [software development platform]. I got put in a mainframe area because of my experience," she recalls. "But the first time they saw a spot for me to move into WebSphere, they gave it to me."

Marissa Andrew, 24, a software developer who also joined the company as a college graduate, credits Nexus, USAA's social networking community specifically for college hires, with affording her the opportunity to work with executives whom she may not even have met so early in her career at another company.

"It's a great way to get exposure," she says. "This group helps get you grounded and to build up a network in the company."

Kevin Bergner, chief administrative officer, largely credits Schwartz, who joined USAA as a programmer trainee in 1983, for fostering the positive attitude and innovative culture within IT.

"Greg Schwartz has brought a great deal of personal leadership and commitment to developing IT," Bergner says. "He starts with recruiting and continues right through by providing developmental assignments and continuing-education programs. Greg knows what it means to work at every level of the organization."

Schwartz puts it this way: "I've had the opportunity to experience it all. I'm an example of what many of our longer-tenured employees experience. We try to sell people on a career, not a job." ♦

NO. 2 Booz Allen Hamilton Inc.

The work standards are high, but those who meet the challenges reap rich rewards. By Mary Brandel

CAROLINE T. DEUTERMANN

Senior IT leaders (back row) Bill Tantum, Michelle DeVane-Brown, Mike Haney, Derrick Burton, Chris Soong, (front row) Mike Waters, CIO Frank S. Smith III and Valerie Olbrick

Booz Allen Hamilton Inc. is renowned for investing in its employees, and Abdul Manraj, a senior associate at the private consulting firm, is living proof of that. In Manraj's 16 years there, McLean, Va.-based Booz Allen has helped him obtain several computer certifications, in addition to providing tuition assistance for IT-related bachelor's and master's degrees.

But accepting that investment means living up to Booz Allen's standard of excellence, which CIO Frank Smith admits isn't for everyone. "This is a challenging place to work – we don't allow you to coast along," he says. "I don't think anyone here would decide that average is good enough."

Those who make the cut enjoy top benefits. "We see a lot of comeback kids – people who leave thinking the grass will be greener, but after a short while, they ask to come back," Manraj says.

Amid all this, Booz Allen encourages fun. "Our picnics are legendary," Smith says.

***Brandel** is a Computerworld contributing writer. Contact her at* marybrandel@verizon.net.

3 JM Family Enterprises Inc.

No. 3 for training

Promising ideas find a place to grow at this Deerfield Beach, Fla.-based automotive firm. The company runs a fully funded research and development program, and IT employees meet regularly to brainstorm new ideas for business initiatives. One recent example of an initiative conceived and piloted by IT employees in the R&D program is a mobile messaging platform developed to help dealers with marketing programs; it has paid for itself many times over.

4 General Mills Inc.

No. 3 for retention, No. 3 for benefits, No. 2 for career development

The employee-employer relationship at this Minneapolis-based food giant is a long-term one. A rigorous recruiting process, combined with an intern-to-full-timer conversion rate that hit 90% in IT in 2009, yields a crop of young employees who can embark on lifelong careers at General Mills.

5 University of Pennsylvania

No. 1 for benefits, No. 2 for diversity

The IT team at this Ivy League university in Philadelphia put a few new feathers in its cap this year. It developed a new open-source/open-standard voice-over-IP system to replace the existing one, saving the university $1 million annually. IT staffers are also working to replace Penn's printed directory with an online-only version as part of an effort to lower carbon emissions by an additional 17% by 2014.

6 SAS Institute Inc.

No. 6 for retention, No. 4 for benefits

IT employees at this Cary, N.C.-based software company know the thrill of working on cutting-edge technology. Collaboration efforts between the IT and R&D teams have helped create technology that supports green initiatives, sustainability efforts and disaster relief analysis. IT employees have opportunities to work on projects with the newest technologies, such as virtualization tools, cloud platforms and grid computing.

7 Quicken Loans Inc.

No. 8 for retention, No. 3 for career development

This online mortgage lender in Livonia, Mich., one of the nation's five largest, might be better described as a technology company that writes mortgages. IT team members get access to the latest technology – and extensive training in how to use it. A new team within the technology group focuses on spurring the innovation and creativity of team members, identifying opportunities to create tools that benefit the business and quickly acting on those ideas.

8 Verizon Wireless

No. 2 for training

IT staffers at this Basking Ridge, N.J., telecommunications firm took on a gargantuan task last year. They integrated recently acquired Alltel's 10 million customers into the Verizon Wireless system in just over 11 months. It was the largest subscriber migration in company history. Training plays a big role in ensuring that workers are ready to tackle such projects: From Day One, every employee is offered online training, instructor-led courses and $8,000 a year in tuition assistance.

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9 Securian Financial Group Inc.

No. 9 for career development

If you get on the career track at this financial services and insurance company, you might be there for the long haul. St. Paul, Minn.-based Securian has a philosophy of hiring entry-level workers and promoting from within. A 17-person IT training group oversees technical education.

10 Salesforce.com Inc.

No. 4 for training, No. 2 for retention

IT employees at this San Francisco-based provider of hosted applications apply lessons from the rugby field to get the best results for customers. Using the "agile scrum" methodology, each team member has a personal stake in helping the business succeed.

12 Southern California Edison Co.

No. 9 for training

This Rosemead-based utility gives employees regular boosts up the career ladder. Its job rotation program, for example, helps prepare participants for more senior roles by pairing them with mentors who help them set performance goals and establish development plans. At the end of each assignment, employees can choose to apply for other positions or be placed in another rotational assignment.

13 H. Lee Moffitt Cancer Center & Research Institute Inc.

No. 5 for retention, No. 6 for benefits, No. 1 for diversity

There are health benefits galore at this Tampa, Fla.-based employer, which is part of the National Cancer Institute's elite group of Comprehensive Cancer Centers. For example, there's a new on-site health care clinic with free services for employees. Other perks include on-site child care, prepaid tuition assistance, a pension plan and flexible work hours.

14 American Fidelity Assurance Co.

Most staffers at this insurance and financial services company, based in Oklahoma City, work normal business hours. But they can choose to adopt flexible schedules or telecommute to meet the needs of their families or customers. Other benefits include a free on-site medical clinic and an on-site fitness center that offers the services of a personal trainer.

NO.

11 Kellogg Co.

A culture of collaboration fuels a team of employees with deep-down loyalty. By Mary K. Pratt

PHOTO COURTESY OF KELLOGG CO.

The IT team (left to right, starting with front row): Maria Detwiler, Ellen Mrazek, Mary Watson; Diana Karklins, Mike Peirce, Bill Luecker; Ed Hanson, Kris Ivicic; Dimitri Carrigan, Jeff Smith

Ken Thompson, director of IT methods and tools at food giant Kellogg Co. in Battle Creek, Mich., describes his workplace as one where employees are valued. "There is a sense of individual empowerment that creates an innovative and entrepreneurial culture," he says.

"Working in our IT department has given me the opportunity to grow professionally and personally," says Julie Sharpsteen, director of infrastructure operations. "I feel empowered to make decisions and bring my ideas forward." Sharpsteen, who has worked at Kellogg for 28 years, has moved up from a keypunch operator to her current position, holding a half-dozen jobs along the way. "We enjoy building very strong working relationships and feel like one big team," she says.

That team-oriented approach has led IT has to establish collaborative relationships with other Kellogg divisions, Thompson says, adding "The Kellogg culture fosters a sense of pride."

***Pratt** is a Computerworld contributing writer. Contact her at* marykpratt@verizon.net.

15 Genentech Inc.

No. 5 for benefits, No. 4 for diversity

This South San Francisco-based biotechnology company, which develops medications for people with difficult-to-treat diseases, considers it essential to stay on top of emerging IT trends. The company was an early adopter of technologies such as cloud computing, Google Apps and the iPhone. The IT group actively seeks opportunities to reinforce the connection between everyday work and the company's mission of helping patients.

16 Campbell Soup Co.

No. 7 for benefits

This Camden, N.J., company is known for its namesake soups, but it also manufacturers an array of other food products. Campbell IT employees have the opportunity to pursue new assignments at their current location or in Campbell offices across the U.S. and around the world. The company's IT group is a global operation and strives to fill open positions internally. An on-site fitness facility is staffed with personal trainers and offers massages and group exercise classes.

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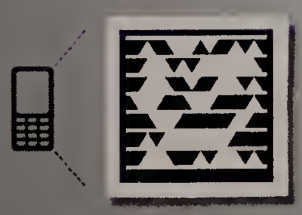

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NO. 17 Chesapeake Energy

Hiring is on the rise, and candidates should be prepared for a blistering pace. By Mary Brandel

IT staffers Jane Lam, Eric Bynum, Alisha Reynolds and Douglas Baughman

If you're an IT professional who likes a fast pace – fast growth, fast change and fast decision-making – you'd fit right in at Oklahoma City-based Chesapeake Energy Corp., one of the largest producers of natural gas and the most active driller of new wells in the U.S.

CIO Cathy Tompkins says her five years at the company have been "completely unlike any place I've ever been. It's growth and innovation all the time, all day long, every day."

Thankfully, the turn-on-a-dime expectations are matched by ample technology resources to get the job done, Tompkins says, citing a state-of-the-art data center and the standard practice of purchasing 22-in. widescreen monitors for every desk so people can more effectively multitask.

"We expect people to work hard and move fast, but we also work to give them everything they need to stay motivated and feel excited to be here," she says. With hiring projected to be double last year's rate, Tompkins has no doubt the company will attract people who revel in constant change.

18 American Express Co.

Women in IT: 45%
Minorities in IT: 27%

This New York-based credit card company is planning for the future and keeping its talent close at hand. With more and more IT employees nearing retirement age, the company launched the American Express Technologies Retiree Network in 2008. Through the network, retirees can list their contact information and areas of expertise and make themselves available for short-term assignments.

19 Prudential Financial Inc.

IT turnover: 4%
IT promotions: 5%

Work/life balance is more than a catchphrase at this Newark, N.J.-based life insurer. The company promotes alternative work arrangements and offers services to help employees deal with challenges they might be facing in their personal lives. In 2009, Prudential held a seminar called the Work/Life Trends and Strategies Forum that highlighted all of the programs and services available to employees.

20 Qualcomm Inc.

Women in IT: 26%
Minorities in IT: 36%

At this San Diego-based vendor of wireless communications products and services, IT staffers have high levels of expertise in top technologies. For example, increasing demand for storage led to an opportunity to embrace cutting-edge technologies such as storage-area networks and cloud computing.

21 Scottrade Inc.

IT turnover: 5%
IT promotions: 16%

Every IT employee has a voice at this St. Louis-based online brokerage. Each month, the CIO and all IT employees participate in a town hall meeting where they discuss updates on projects, new developments and other topics. At these meetings, IT staffers can openly ask questions and make suggestions, and they gain an understanding of where the company is headed.

22 National Information Solutions Cooperative

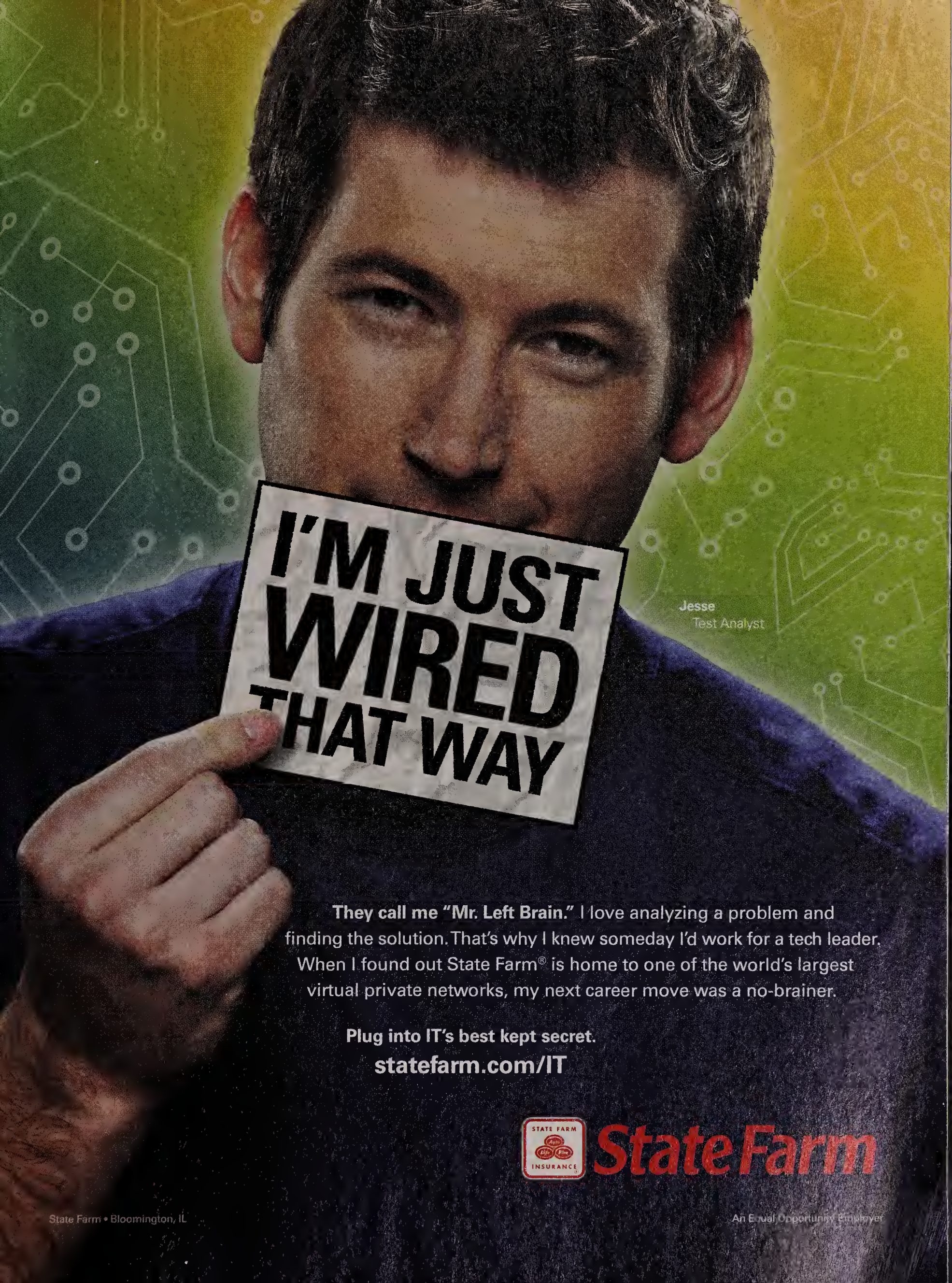
No. 10 for training, No. 7 for retention

In 2009, this data-processing and billing service in Lake St. Louis, Mo., made its flexible work arrangement program official. Employees can now choose to telecommute or work compressed workweeks as long as the needs of their business units are met.

23 Marriott International Inc.

Women in IT: 36%
Minorities in IT: 32%

Employees at this Bethesda, Md.-based hotelier have the opportunity to work full time at alternative work sites or split their time between the office and home – whichever arrangement helps them be the most productive. To promote telecommuting, the company held a "Work From Home Day." Staffers were encouraged to test their ability to work from home and to ensure that they understand how to use Marriott's remote access tools safely and securely no matter where they are.



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24 University of Miami

No. 5 for training,
No. 5 for diversity

The IT group at this Coral Gables, Fla., university jumped into action in the aftermath of the earthquake in Haiti, working around the clock to create a 25-station command center at the medical campus to support University of Miami doctors setting up a field hospital in Port-au-Prince. Other IT staffers worked with satellite telecommunications company Iridium to negotiate a plan to allow people to make free satellite phone calls to Haiti.

25 DTE Energy Co.

No. 10 for benefits

It's been a tough few years in this natural gas and electric utility's main service territory in southeast Michigan, but the Detroit company has made good on its promise to preserve jobs in its IT workforce. All employees, both leaders and rank-and-file contributors, have been trained in the use of continuous process-improvement tools, and the company has implemented many changes to cut operating costs and save jobs. The IT organization has maintained a "steady state" staffing level.

26 The Mitre Corp.

IT turnover: 5%
IT promotions: 3%

Employee questions don't go unanswered at this not-for-profit science and engineering organization in McLean, Va. Through a special feature on its intranet called "Closing the Loop," employees' suggestions and questions are fielded by senior managers, and the responses are published on the intranet. Employee opinions are valued, too: Since 1997, the company has conducted a biennial employee survey to better assess employee satisfaction and productivity.

NO. 27 Kaiser Permanente

Ideas bubble right to the top with company-supplied seed money. By Ken Gagné

IT staff members enjoy a break from work at a company-sponsored ice cream party.

The best ideas deserve a chance to be implemented, wherever in the management chain they originate. Kaiser Permanente, a health maintenance organization in Oakland, Calif., is a place that fosters such creativity. The company's Innovation Technology Fund is a good example. Initiated two years ago, the fund promotes new ideas that improve the quality of Kaiser Permanente's service, whether by empowering employees with more-efficient resources or by improving the care that customers receive.

"It was really a matter of supporting an innovation culture that was already in the company," says Amanda Higgins, executive director of IT communications and stakeholder management.

As a result of projects launched through the multimillion-dollar fund, administrators now have a real-time digital inventory of which beds are available where, and doctors can be notified on their mobile devices when patients' lab results are available. In 2009, the fund seeded 27 projects.

28 Medtronic Inc.

Women in IT: 28%
Minorities in IT: 23%

This Minneapolis-based medical device maker aims to help employees share their knowledge with one another. As part of its "Innovation for Life" campaign, Medtronic developed a tool called InnoCentive@Work, where employees can post queries about challenges they're facing and their colleagues can suggest solutions. Similarly, the Medtronic Information Exchange is a dynamic, internal networking environment where employees connect with one another and share knowledge.

29 Palmetto Health

No. 4 for retention, No. 4 for career development

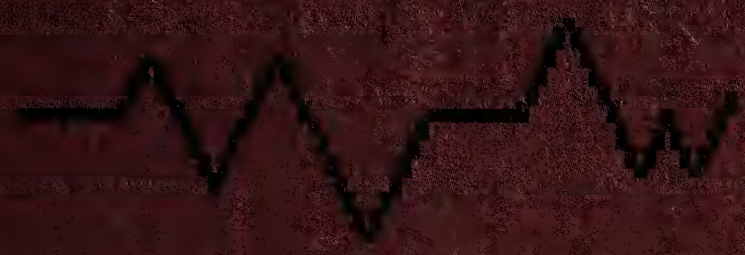
Through the use of a "rounding" communication technique, managers and IT employees at this not-for-profit health care system in Columbia, S.C., talk at least monthly, using consistently applied questions to determine which staffers should be recognized, which processes are working and which areas might benefit from improvement. Documented actions are then relayed back to the employee who suggested the change.

30 OhioHealth

No. 10 for retention

There are social events galore at this regional health care system in Columbus. The company hosts an annual picnic with food and games, an annual holiday meal with gifts, an annual golf outing and cookouts. Plus, an annual all-staff meeting features entertainment and games. Staffers also get involved in community fundraisers such as the Heart Walk to benefit the American Heart Association and the Memory Walk to benefit the Alzheimer's Association.

COMPUTERWORLD 100 BEST PLACES TO WORK IN IT 2010



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NO. 31

Discovery Communications

The corporate philosophy rewards curiosity and supports its employees' wellness. By Mary Brandel

IT staffers Barry Dubin, Beth Charters and Shiva Kolli collaborate on media solutions.

As an employer, Discovery Communications has a lot to live up to, with its portfolio of TV channels focusing on wholesome topics such as science, health and the environment. According to CIO David Kline, the global nonfiction media giant does just that, with a full-service wellness center that offers medical and lifestyle management services; a LEED-certified building that houses its day care center; a full program of career courses open to all employees; and fitness classes in the outdoor "sensory garden."

"Wellness goes with our genre," says Kline, who joined Discovery three years ago. The open, flexible workplace, he adds, is still heavily influenced by founder John Hendricks, who can often be seen in the hallways and whose "come to work happy, leave work happy" philosophy resonates throughout the Silver Spring, Md.-based company.

Despite the recession, Kline says, none of the services that employees enjoy have been cut back, and he sees that as a reflection of the company's focus on work/life balance.

32 Cedars-Sinai Health System

No. 7 for diversity

Work at this Los Angeles-based nonprofit health care organization, and get the best it has to offer. Employees receive discounted services, waived co-pays for doctor visits at many Cedars-Sinai physician offices and a waived insurance deductible for hospital visits. The IT department also budgets $3,000 per employee each year for training and development. The UCLA Technical Management Program provides three days of training annually for Cedars-Sinai tech workers, with sessions facilitated by local and national IT leaders.

33 Southern Co.

Women in IT: 25%
Minorities in IT: 21%

This Atlanta-based energy firm is focused on building a team of workers who also feel like family. Last year, IT employees at Southern Co. business unit Gulf Power hosted the 11th annual Fall Football Frenzy, raising money for the Leukemia & Lymphoma Society in honor of the son of two IT employees who is battling lymphoma. The company also hosts blood drives, in cooperation with the American Red Cross. The Georgia Power Family House program provides two houses, located near major Atlanta hospitals, for families who must travel long distances to receive medical care in the city.

34 Texas Health Resources

Women in IT: 49%
Minorities in IT: 26%

The IT group has gone virtual at this nonprofit health care system in Arlington. The guiding principle for teleworking is that virtual teams are the norm and, when possible, meetings should be conducted virtually. Thanks to an investment in new technology, more than 75% of IT employees telework, helping to improve work/life balance and boost job satisfaction. Another big plus: The Community Time Off program allows employees to use up to eight hours of paid time off annually to participate in volunteer projects. For example, IT employees have helped out in food kitchens and built community playgrounds. The company also offers a tuition reimbursement program that covers not only employees but also spouses and dependents pursuing clinical degrees.

35 The Vanguard Group Inc.

IT turnover: 2%
IT promotions: 4%

IT staffers at this Malvern, Pa.-based investment firm get to work on big custom projects. In fact, 80% of Vanguard's development budget goes toward in-house projects, rather than offshore projects or off-the-shelf technologies. That approach boosts job satisfaction and gives IT staffers a chance to hone their skills on leading-edge technologies. Other career development initiatives include job rotation and mentoring programs and a performance review process that includes specialized development and training plans for each individual.

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NO. 36 Lehigh Valley Health Network

Top-notch technology and a growing IT staff make for a dynamic workplace. By Mary K. Pratt

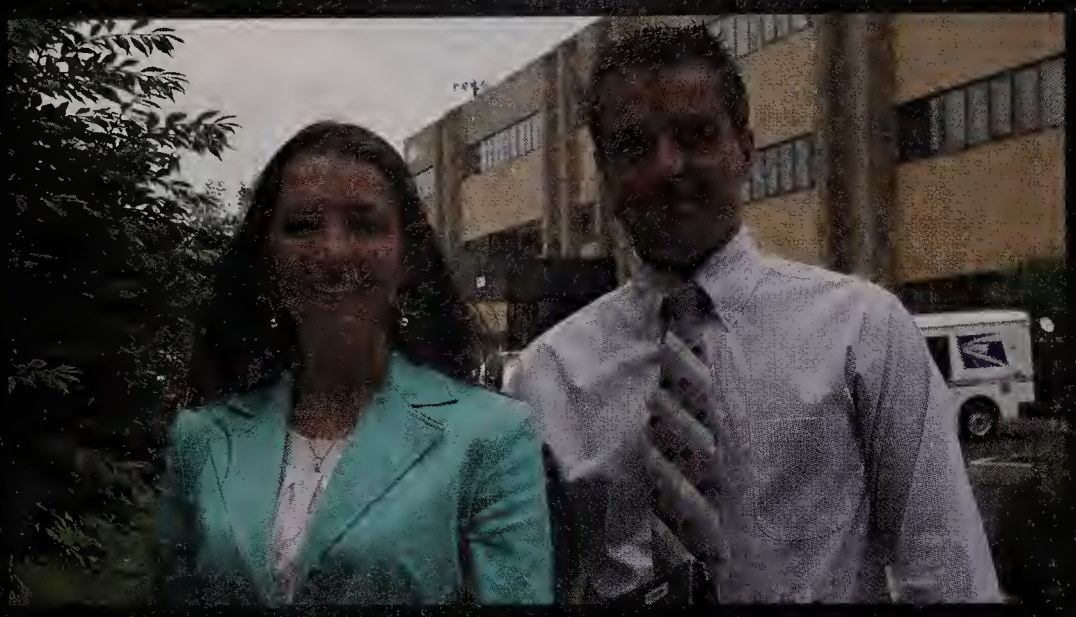

PHOTO COURTESY OF LEHIGH VALLEY HEALTH NETWORK

IT staffers Kyanti Kleinsmith and Andrzej Pilacik, outside Lehigh Valley's headquarters

Lehigh Valley Health Network continues to invest in its IT department, despite the slow economy. In fact, in 2009 the Allentown, Pa.-based health services group added staff, upgraded applications and infrastructure, and adopted new technologies. Such investments have helped Lehigh Valley create a dynamic workplace for its IT staff.

"There's a lot going on that's top-of-the-line software and hardware, so you get to see the best-of-the-best technologies. It gives you a good feeling to know you're right on top," says Andrzej Pilacik, a senior database administrator.

Pilacik says he has been able to work on five or six major projects in his six-year tenure.

"They look for potential in people," says senior systems analyst Kyanti Kleinsmith, who started at Lehigh in 2003 as a medical secretary and worked on rolling out a new electronic medical records system as she moved into IT three years ago.

IT's Special Events Committee, which sponsors charitable and social activities, helps to create a sense of community and work/life balance.

37 Corning Inc.

No. 1 for career development

At this specialty glass and ceramics maker in Corning, N.Y., diversity within its employee ranks is considered more than an obligation — it's a competitive advantage. And diversity encompasses not only gender, ethnicity and race, but also age, sexual orientation, work style and level, perspective, education and skills.

38 OCLC Online Computer Library Center Inc.

IT turnover: 4%

This Dublin, Ohio, nonprofit computer library service and research organization offers a host of alternative scheduling options, including flexible hours, compressed workweeks, reduced work hours, job sharing and telecommuting. Other perks include dry cleaning and shipping services and discounts for local businesses and entertainment venues.

39 Rackspace US Inc.

Training days for IT: 5

The list of perks at this San Antonio-based managed hosting services company is long. It starts with stock options, spot bonuses and the company's highest award — the Straightjacket Award for Fanatical Support. Other quirky perks include team outings and annual companywide celebrations such as "Racktoberfest," impromptu gatherings to celebrate milestones and a holiday party.

40 Altria Group Inc.

No. 6 for training

The IT department at this tobacco company, based in Richmond, Va., has been busy the past few years. IT has supported the spin-off of two companies, integrated the systems of two acquired companies, and supported direct-to-consumer communications. To build the team that can tackle this amount of work, the IT department offers its own "IT University" program.

41 VHA Inc.

Women in IT: 35%
Minorities in IT: 33%

Benefits at this Irving, Texas-based health care organization include an award-winning fitness center, and free popcorn and beverages. The IT department also hosts an off-site Fun Day that involves a team-building activity. Another benefit is the Way To Go! program, which honors actions and deeds that contribute positively to the company's culture and mission.

42 HCA Inc.

Training days for IT: 3

This for-profit hospital operator, the largest in the U.S., is focused on giving back. Nashville-based HCA sponsors blood drives, Habitat for Humanity projects and Junior Achievement initiatives. Its Caring for the Community campaign offers employees opportunities to volunteer at local nonprofits. Each year, employees can take two days of paid time off to do charity work.

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43 Northwestern Mutual

Training days per IT worker: 5

An employee can find a lot to like at this Milwaukee-based life insurance company. There are 29 clubs offering company-subsidized activities for people with interests in a range of subjects, including sports, hobbies and professional growth. Northwestern Mutual also offers a fully funded defined benefit pension plan.

45 Edward Jones

IT turnover: 2%

Own a piece of the pie at this financial services company in St. Louis, one of the largest operating partnerships in America. Edward Jones is owned by 10,000-plus limited partners and 330 general partners, including more than a quarter of its employees. Each limited partner earned a 16% return in early 2009.

46 Quest Diagnostics Inc.

Women in IT: 38%
Minorities in IT: 29%

IT employees at this Madison, N.J.-based clinical laboratory know that their success directly impacts the health of patients. New technologies that IT has developed include an e-prescribing system. To spur creativity, Quest set up Innovative Think Tank rooms with laptops, large-screen TVs, and Wi-Fi and Skype capability for virtual brainstorming sessions.

47 CME Group Inc.

No. 6 for career development

Several years ago, the IT department at this Chicago-based company, which owns the Chicago Mercantile Exchange and the Chicago Board of Trade, launched an initiative to design a formal work/life balance program. Changes implemented through this effort have improved communication and added flexible scheduling options.

48 Raytheon Co.

IT turnover: 4%
IT promotions: 9%

IT workers at this defense contractor in Waltham, Mass., feel a connection to warfighters on the front lines; they know that the military needs the company's systems to be completely reliable. Staffers also support external projects, such as the Team America Rocketry Challenge and the Raytheon-designed Sum of All Thrills exhibit at Disney World.

NO.

44 Express Scripts Inc.

Top talent is prized here and urged to grow into leadership roles. By Mary K. Pratt

PHOTO COURTESY OF EXPRESS SCRIPTS INC.

Staffers from the business resource management, human resources and business alignment teams gather with **CIO Gary Wimberly** (third from right).

Express Scripts Inc., a St. Louis-based pharmacy benefits management company, knows the value of well-trained IT staffers and works hard to keep them. The company's retention rate last year was an impressive 96%.

So, why do IT workers stay there? Executives chalk it up to efforts to recruit and develop top talent, which include a senior manager talent infusion program, a summer internship program, and leadership job-rotation programs.

Suzi Kurtovic, a senior manager in data warehousing and reporting, came to the company through its leadership program and spent two years rotating through several assignments.

"We have amazing leaders within IT who are easily accessible and provide great guidance and direction," she says. "They're interested in our growth and provide mentorship."

49 Principal Financial Group Inc.

Women in IT: 45%

For IT employees at this financial services provider, working additional hours or alternate work schedules, or being on-call to solve problems, goes with the territory. In return for employees' flexibility, the Des Moines-based company offers technology and benefits to help them achieve work/life balance. Options include flexible work hours, telecommuting and compressed workweeks.

50 Allstate Insurance Co.

No. 9 for diversity

IT employees at this Northbrook, Ill.-based insurance company get to see their hard work in action. When state-of-the-art, wireless-enabled mobile response units quickly serve customers in storm-ravaged areas or when a newly re-engineered claims system allows agents to quickly settle claims, IT shares in the success. The team is currently developing systems that use telematics to encourage safer driving.

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NO. 52 Cerner Corp.

Technology supports a mission of caring at this health care company. By Mary Brandel

NICHOLE SLOOP

IT staff members at the company's Midwest headquarters (from left to right): Mrudula Mansani, Dustin Manderfeld and Ash Siebecker

Every day of the week, IT professionals at Cerner Corp. in Kansas City, Mo., are reminded that the work they do will directly affect the future of health care. Employees use an internal collaboration platform called uCern, which the IT group built over a year ago, to post updates on subjects such as health care reform and new medical technologies. In addition, every IT employee at the supplier of health care technology systems has the opportunity to engage in a program where they work at the hospitals they serve to help troubleshoot new systems or upgrades.

"Any associate in the company can get direct contact working with nurses and doctors," says Ash Siebecker, senior manager of enterprise solutions. "It's great because you get out of the office and into a clinical setting to get experience firsthand on what the company is all about."

Cerner's campus hosts a primary care clinic with a lab and pharmacy, as well as a fitness center with an indoor pool and racquetball courts, and a Montessori school for employees' children.

51 Intermountain Healthcare

IT turnover: 3%
IT promotions: 10%

This not-for-profit health system in Salt Lake City offers a defined-benefit pension plan that can't be beat. At no cost to the recipients, the plan provides former employees with monthly payments or a lump-sum payment at termination or retirement, with the amount based on the employee's level of compensation and years of service. Individuals are vested in the plan after five years of employment.

53 Temple University

Women in IT: 30%
Minorities in IT: 38%

Located in Philadelphia, this university boasts the biggest state-of-the-art computer lab and teaching center in the country. Employees pay no tuition for undergraduate and graduate programs, their spouses receive a 50% discount on tuition, and their children pay no tuition for up to 10 semesters of undergraduate education.

54 Raymond James Financial Inc.

Training days for IT: 5

IT employees at all levels play an influential role at this financial services firm in St. Petersburg, Fla. Input from employee surveys and focus groups is used to help set goals and determine the strategic projects undertaken by the IT department. An employee network is dedicated to reducing bureaucracy and increasing productivity and efficiency by streamlining processes.

55 WellPoint Inc.

Women in IT: 43%
Minorities in IT: 25%

Technology is critical to the success of this health benefits provider in Indianapolis. The IT team is focused on making the health care experience as pleasant as possible for its members by providing secure, efficient systems that are easy to use. The compensation package for IT workers includes merit raises and the potential to earn annual bonuses and on-the-spot awards.

56 Thomson Reuters Corp.

IT turnover: 7%
IT promotions: 17%

IT workers at this $13.4 billion financial data company in New York use the latest technologies. Some are working with cloud computing, while others are developing virtual strategies to support customers' increasing data needs or deploying software from companies such as SAP and Salesforce.com.

57 Health Care Service Corp.

Training days for IT: 5

This Chicago-based health insurer strives to maintain a diverse workforce. It has won numerous awards for diversity, especially in its IT department. The company has been on the *DiversityInc* Top 50 list multiple times, and it has been recognized as one of the "Best Companies for Blacks in Technology" by Black Data Processing Associates since 2006, winning top honors in 2008. The IT group has a formal plan for dispersing information to employees at all levels of the organization.

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COMPUTERWORLD 100 BEST PLACES TO WORK IN IT

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NO. 58 Harrah's Entertainment

IT gets in on the action by creating technologies tuned for casino customers. By Robert L. Mitchell

MIKE STOTTS

IT staffers Charly Paelinck, Chris Chang, Katrina Lane, John Pestka and Ann Metzger

High energy. High optimism. Never a dull moment. That's what Maile Keliikoa says she likes best about working at Last Vegas-based resort operator Harrah's Entertainment.

The business is running 24/7, "and so are we," says the lead systems analyst. But that doesn't mean she works all the time. Keliikoa, a nine-year veteran, has the flexibility to take time off during the day to watch her daughter's softball games.

Keliikoa works with teams that change every few months. "That's something that attracted me," she says. "There are exciting things to work on, but also opportunities to learn new things." One of those opportunities to learn is an effort to develop systems Harrah's describes as "patron-based technology" that fosters communication with customers through slot machines.

Last year was rough, with layoffs and a 5% pay cut. The cut was reversed on Jan. 1, and the business is expanding again. "On any given day, we have more than 15 [job openings] posted," says Tracy Ricketts, director of IT shared services.

59 Southwest Airlines Co.

IT turnover: 5%
IT promotions: 4%

Thanks to a flextime policy that went into effect in June 2009, employees at this Dallas-based airline have their choice of three scheduling options. The program began with a 90-day test run, and at the end of the trial period, more than 98% of the IT department staffers were in favor of continuing it.

60 Publix Super Markets Inc.

Women in IT: 33%
Minorities in IT: 21%

Last year, this supermarket operator in Lakeland, Fla., made more than $60 million in IT capital investments, spending money on both new business applications and infrastructure enhancements. In 2009, Publix gave full-time IT employees holiday bonuses equal to a month's salary, paying out a total of more than $3.8 million.

61 State Farm Insurance Cos.

IT turnover: 4%
IT promotions: 6%

IT employees stay connected in a big way at this Bloomington, Ill.-based insurance provider. The company maintains one of the largest virtual private networks in the world, linking more than 65,000 employees and 17,000 agents. Plus, it offers staffers 1,000 in-house IT courses and certification programs.

62 The Sherwin-Williams Co.

Training days for IT: 7

Even in a tough economy, there's room for growth and advancement at this Cleveland-based paint manufacturer: 15% of the company's employees received promotions last year. Sherwin-Williams emphasizes training opportunities and teamwork, and last year all corporate IT leaders attended a communication course called Crucial Conversations.

63 Kraft Foods Inc.

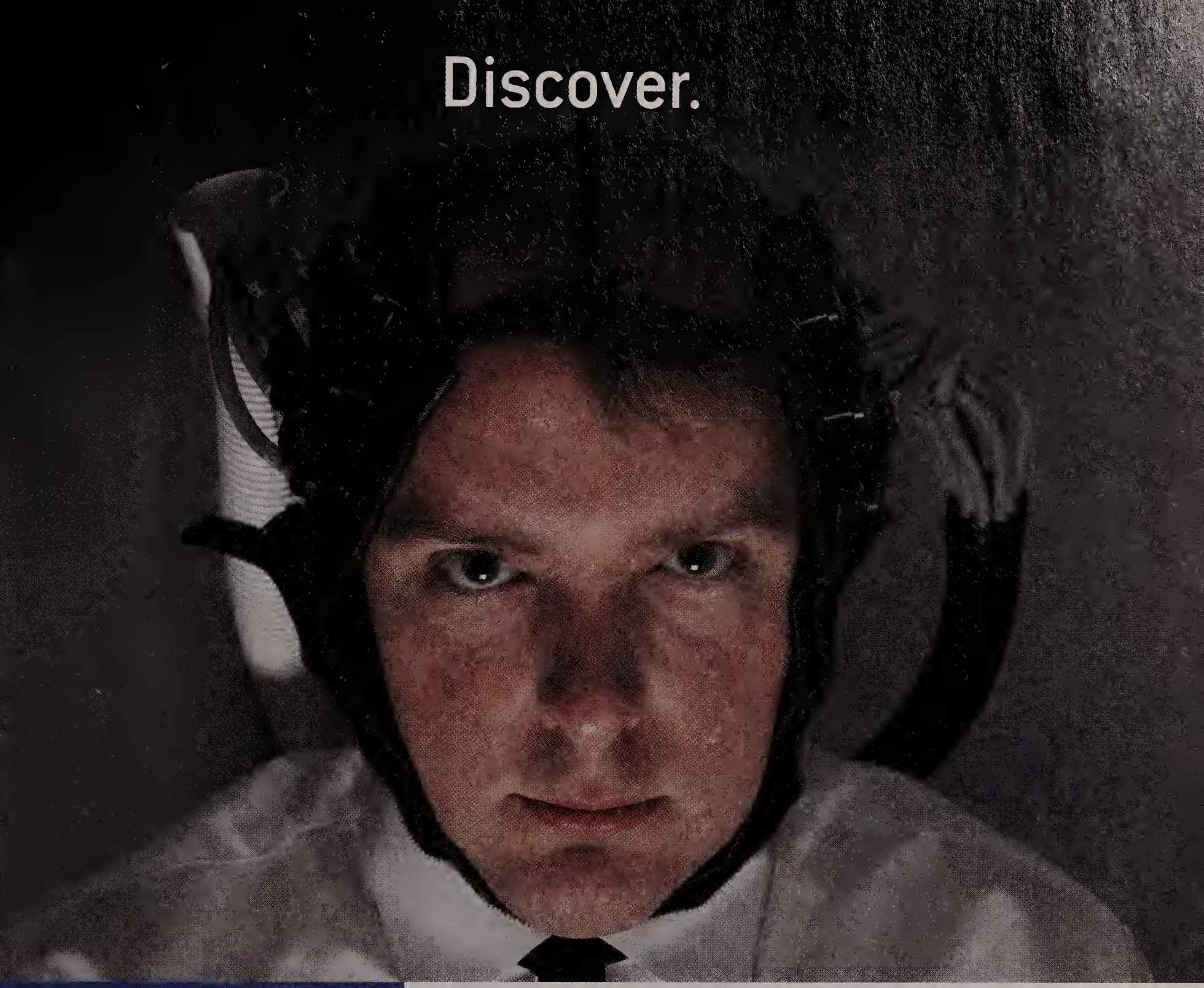
Women in IT: 38%
Minorities in IT: 26%

IT workers at this food manufacturer are playing a leading role in a workplace transformation project. The office space at the company's headquarters in Northfield, Ill., was redesigned from a traditional office-and-cubicle configuration to a bright collaboration space featuring open seating for project teams and other workers.

64 Norton Healthcare

Training days for IT: 3

Despite the tough economy, this Louisville, Ky.-based operator of health care facilities hasn't had to lay off any IT employees; it cut spending in areas other than staffing instead. The IT group's Recognizing IS Employees committee is made up of rank-and-file staffers who are empowered to make changes, recognize staff achievements and organize departmental social activities.



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65 Sacramento Municipal Utility District

IT promotions: 6%

One of the largest locally owned electric utilities in the U.S., SMUD was recently awarded a $128 million Department of Energy Smart Grid Stimulus Grant, and IT employees will play a major role in managing and integrating the projects it funds. The grant money will be used to defray the cost of deploying 600,000 smart meters, automating the distribution system, launching a 50,000-customer demand-response program, installing infrastructure to support plug-in hybrid electric cars, and rolling out a dynamic pricing scheme to a subset of residential customers. Employees can earn annual bonuses equal to as much as 10% of their salaries.

66 The George Washington University

No. 7 for training

IT has a full plate of tech projects at this Washington, D.C., university, which has more than 19,000 undergraduate and graduate students in nine schools. The IT department works with students, staffers and faculty members to develop systems that support collaborative learning, innovative teaching and cutting-edge research. IT staffers serve nearly 28,000 university community members across three campuses, taking care of the technology needs of classrooms, computer labs, research labs, residential halls, academic departments and event spaces. Their duties include deploying communications infrastructures, managing databases, installing software, designing Web sites, troubleshooting user problems and managing digital TV conversions.

67 Transocean Ltd.

Training days for IT: 5

This deep-water drilling company in Houston has been in the news because of the oil spill in the Gulf of Mexico. Its 95-person IT department, however, has been quietly working behind the scenes to give back to the community by supporting local charities. To further the professional development of staffers, IT managers created a program that identifies individuals' training needs and gives them an opportunity to take classes on the appropriate subjects. Instructor-led classes are available on-site and at a training vendor's facility. Other professional development options include computer-based training, self-paced courses and technical resource guides.

NO.

68 Indiana University

Career development opportunities for IT staffers abound at this top-rated university. By Ken Gagné

JAY HAGENOW

A cyberinfrastructure building (shown here as a model at the groundbreaking ceremony) was designed by Indiana University's Advanced Visualization Lab.

In a challenging economy, many people turn to academia to help them develop the skills they'll need in a new job market. IT staffers at Indiana University are proof that full-time students aren't the only ones seeking out growth opportunities.

For example, all IT workers are eligible to participate in the IT Leaders enrichment program, which features job-shadowing opportunities and job exchanges across departments, from the help desk to the registrar's office and the central IT organization. "The department delineation just doesn't exist," says Debby Allmayer, human resources officer at the Bloomington, Ind., university. Such interaction and collaboration led IT to adopt a new motto: "One IU IT."

IU employees enjoy more than broad educational opportunities; the university also has a relaxed dress code and allows staffers to telecommute. Such flexibility became crucial two years ago in the wake of Hurricane Ike, when the area was hit with severe flooding and power outages closed several buildings on campus. "The staff discovered they were capable of working remotely, and we quickly set up a central location and got tools together to help people continue to work," says Allmayer. "It came out quite well — but it's not something we want to repeat ever again!"

69 Automatic Data Processing Inc.

IT turnover: 8%

IT promotions: 19%

The CIO at this payroll and tax-filing processing service in Roseland, N.J., began his career at the company as an entry-level programmer and moved steadily upward until he was named ADP's first CIO. The company offers a variety of scheduling options that allow employees to telecommute fully or work part of the week from home as business needs permit. The company has focused on ensuring that employees receive the training and development they need to effectively manage, work and communicate within a diverse and geographically dispersed organization. On-site amenities include child-care centers, full-service medical facilities, fitness centers and a federal credit union.

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70 Antares Management Solutions

A division of Medical Mutual Services, this Strongsville, Ohio-based company provides business process and application hosting services. Employee benefits include vision and prescription drug coverage, as well as flexible spending accounts.

72 Grant Thornton LLP

Training days for IT: 5

Fun is serious business at this Chicago-based accounting firm. To build IT staff morale, the Employee Engagement Committee organizes social activities throughout the year. Last year, IT employees marked Earth Day with an organic pizza party and office clean-out hour.

73 Northern Trust Corp.

IT promotions: 21%

If employees ask a question, they get an answer at this Chicago-based multibank holding company. The IT unit regularly holds meetings with the CEO and groups of managers and staffers to get a broad view of what's on the minds of employees.

74 Commonwealth Financial Network

Women in IT: 27%

After three years on the job, employees at this financial services company in Waltham, Mass., are eligible to stay free of charge in vacation homes owned by Commonwealth's chairman. Employees are also eligible for a year-end bonus.

75 Aflac Inc.

Training days for IT: 7

The turnover rate in the IT department at this Columbus, Ga.-based insurance company is just 5.6%, well below the industry average of 11%. Giving back to the community is part of the culture here: The Aflac Cares program recognizes employees for their volunteer efforts.

76 Partners HealthCare System Inc.

At this Boston-based company, IT has a positive impact on the patients at the hospitals that Partners operates. A volunteer IT green team started a cell phone recycling initiative and an awareness campaign that cut paper cup use by 20%.

NO.

71 FedEx Corp.

Education is the foundation of employee development and loyalty. By Mary K. Pratt

JASON BAKER

FedEx IT staffers Chuck Sertich, Wendy Mundy and Alex Vergos

When Barbara McClatchey started working at FedEx, she was moving packages during the night shift to help put herself through college. Now, 29 years later, McClatchey is a senior systems analyst at the Memphis-based package-delivery company – and an example of what can happen when an employee's drive is paired with the company's keen focus on education and training.

When she moved from the shipping department into IT in the late 1980s, McClatchey was working on a mainframe. Over time, and with the company's support and training, she learned a host of new technologies as they became available.

McClatchey is now working on a language translation software project that has her learning a whole new area of FedEx's global operations. "It might not be new technology, but it's a new aspect of the business, which I find fascinating," she says. "You can make this an ongoing education if you choose to."

77 Discover Financial Services

Women in IT: 31%

Minorities: 27%

The perks are plentiful at this Riverwoods, Ill.-based financial services firm. Work/life balance programs include flexible scheduling, 25 days of paid time off effective at the time of hiring, a relaxed dress code and a focus on career development. At the company's headquarters, where the majority of IT staffers work, an 80-acre campus features a 1.8-mile running trail and outdoor basketball and volleyball courts.

78 National Rural Electric Cooperative Association

No. 10 for career development

Building careers is a key part of the culture at this Arlington, Va.-based organization, which represents consumer-owned power cooperatives. An IT mentoring program is aimed at developing leadership qualities; 15% of IT workers participate in the program. Moreover, 59% of IT workers have earned advanced degrees and certifications at the association's expense.

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Information Technology Value Analysts
Resource Management Analysts

Corporate Information Security
Program Managers, Information Technology
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UNITED STATES POSTAL SERVICE

79 Penn National Insurance

IT turnover: 2%
IT promotions: 6%

IT staffers at this Harrisburg, Pa., insurance firm, which does business in nine Eastern states, get to know their customers. All IT employees are required to take at least one insurance course to understand the business and better understand customers, and they are encouraged to visit with customers and share their insights. All employees are eligible for an annual incentive compensation program, which provides a lump-sum payment ranging from 5% to 23% of salary each March.

80 GlobalScape Inc.

Women in IT: 25%
Minorities in IT: 32%

Get the workspace that fits your style at this San Antonio-based software company. Employees can design their own workspaces at GlobalScape, and they can take advantage of flexible scheduling options, choosing start and end times anywhere between 6 a.m. to 6 p.m. The company pays 100% of the premiums for medical, dental and vision insurance coverage.

81 State Street Corp.

Women in IT: 30%
Minorities in IT: 22%

IT workers at this Boston-based financial services firm have an opportunity to master cutting-edge technologies. For example, current IT projects and strategies involve stack and cloud configurations, "lean" practices, agile methodologies and innovative data-management capabilities. The company invests 20% to 25% of its operating budget in technology each year.

82 Pricewaterhouse-Coopers LLP

No. 9 for benefits

Diversity in the workplace is more than a catchphrase at this New York-based accounting firm. A chief diversity officer reports directly to the U.S. chairman, and the firm has a 27-person national office of diversity, with local diversity leaders. Employees may choose to join any of several "affinity circles" that reflect their lifestyles and backgrounds. Examples of such groups in local offices include minority circles, women's networking circles, the Asia-Pacific network, and GLBT (gay, lesbian, bisexual and transgender) circles. In Tampa in 2004, several IT staffers helped launch the first of the firm's 11 GLBT circles.

NO.

84 W.W. Grainger Inc.

A gung-ho attitude toward strategic projects keeps IT staffers energized. By Mary K. Pratt

PHOTO COURTESY OF W.W. GRAINGER

Grainger IT employees (clockwise, from left) Susan Bennett, Bob Ramsden, Brian Wells, Portia Woodhouse and Alan Loke

W.W. Grainger makes no secret of its dependence on IT, since the computer systems at this maintenance, repair and service equipment distributor handle about 95,000 transactions daily and help serve Grainger's 1.7 million customers. The fact that IT's strategic value is well understood makes Grainger an exciting place to work, IT employees say.

"There's always something new and interesting to work on," says Brian Wells, group manager for business systems at the Lake Forest, Ill., company.

Wells, who was recruited by Grainger six years ago from his previous job in IT consulting, says he came to Grainger as the company was going through a major SAP implementation. He was impressed with the project. "What intrigued me was Grainger's willingness to go after a lot of functionality at one time. It was energizing to work with so many areas of the business," Wells says. "It showed faith in the IT department."

83 Intuit Inc.

Minorities in IT: 42%

IT employees at this Mountain View, Calif., maker of TurboTax and other financial applications are embedded in business units and work with various technologies, from desktop equipment to the tools used to support customer-facing systems. Intuit pays up to 95% of employees' health insurance premiums. Its Total Rewards compensation and recognition portfolio incorporates everything from salary and benefits to stock options and awards programs.

85 The University of Oklahoma

No. 7 for career development

IT staffers at this Norman, Okla., school, which attracts students from more than 100 countries, can work anywhere – on campus and beyond – thanks to technologies such as Web applications and smartphones. The IT group has an on-staff certified professional life coach who meets with individuals and conducts group training events to help employees balance the demands of work and home.

100 BEST PLACES TO WORK IN IT 2010

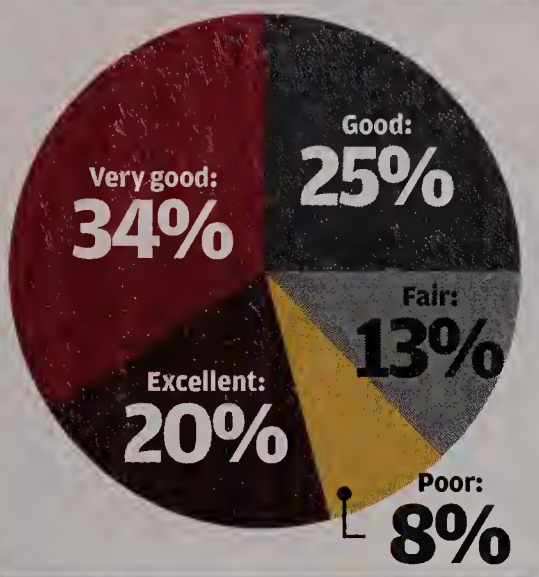
By the Numbers

SOURCE: 38,147 IT WORKER RESPONSES TO THE EMPLOYEE PORTION OF THE BEST PLACES SURVEY FROM THE FINAL 100 ORGANIZATIONS SELECTED

WHAT'S MOST IMPORTANT ABOUT YOUR JOB?

Working in an enjoyable environment	93%
Being fairly compensated for the work I do	93%
Having access to training and opportunities that further my skills	88%
Having the means and opportunity to further my career	86%
Working in a challenging environment	82%
Being able to work with cutting-edge technology	73%

HOW DO YOU RATE IT DEPARTMENT MORALE?



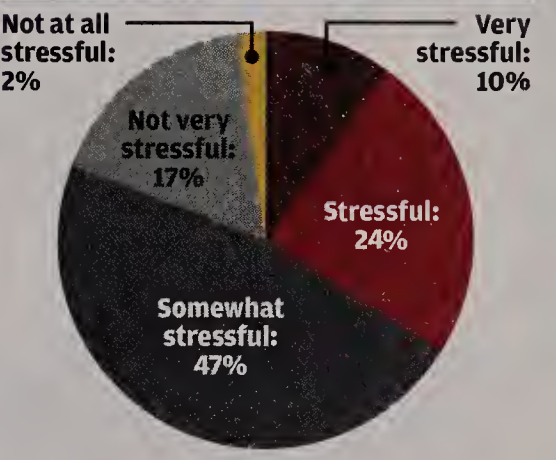
WHAT'S THE BEST BENEFIT?

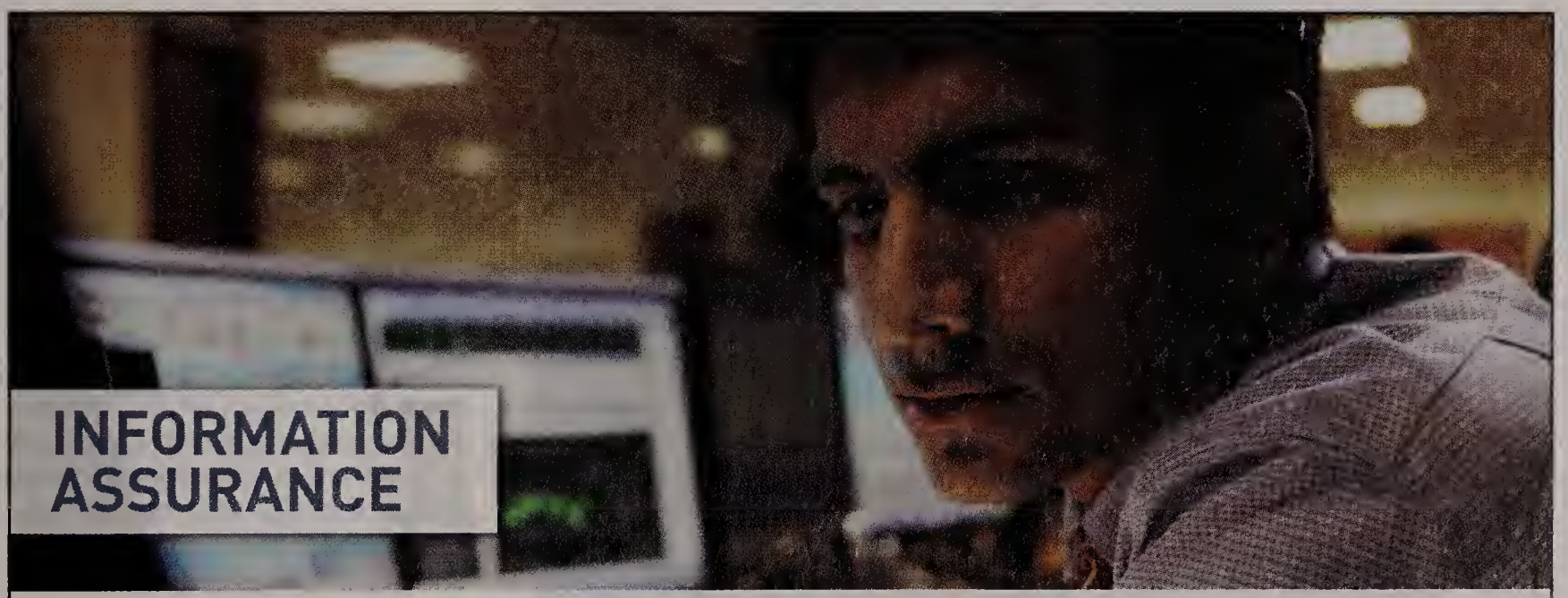
Paid vacation	75%
Health insurance	74%
Profit sharing/employee stock ownership program/ 401(k)/403(b) plan	51%
Telecommuting	46%
Flexible hours	45%
Bonuses	40%

HOW DO YOU RATE YOUR BENEFITS?

Very satisfied or satisfied with health benefits	74%
Very satisfied or satisfied with flexibility of work hours	75%
Very satisfied or satisfied with company's profit sharing or employee stock ownership plans	76%
Very satisfied or satisfied with company's training and development programs	70%
Very satisfied or satisfied with bonuses	54%

HOW DO YOU RATE YOUR WORKPLACE STRESS LEVEL?





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NO. 86 Eastman Chemical Co.

A bucolic locale, flexible hours and sense of empowerment keep IT workers happy. By Mary Brandel

Eastman's **Kevin Barham** leads IT colleagues **Kapunza Kinunda** and **Ed Montgomery** in a trek on the Appalachian Trail.

Inside the headquarters of Eastman Chemical Co., IT employees enjoy amenities that most workers value highly: a collaborative and positive work environment, ample professional development opportunities and a clear sense that they're contributing to the business and being rewarded for it. Outside, there are even more reasons to enjoy working at the Kingsport, Tenn.-based Fortune 500 company: the lakes, mountains and parks of eastern Tennessee, and the nearby restaurants that employees can reach on foot during a lunch hour.

Even better, employees have the opportunity to enjoy those attractions, thanks to Eastman's flexible scheduling options. "There are folks who work schedules that are a little unusual – with a lot of IT jobs, it just doesn't make sense to do all the work during normal business hours," says Jeff Goulder, a systems analyst.

According to Goulder, another of the company's strengths is its stable work environment. "People typically work at Eastman on a long-term basis, so there is very little turnover," he says. "Because of that, employees can build up relationships that help them produce results."

87 Comerica Bank

Women in IT: 43%
Minorities in IT: 24%

IT employees at this Dallas-based bank holding company, which has about 460 branches, can double as activities directors. A special committee made up of volunteer IT employees hosts a variety of events throughout the year, many of which raise money for charities.

88 Black Hills Corp.

IT turnover: 1%

This Rapid City, S.D.-based energy firm puts a special emphasis on teamwork. The company offers flexible work schedules, merit increases and bonuses based on achievement of individual goals and overall company performance. Recognition programs include awards to thank employees for their years of service.

89 Paychex Inc.

IT turnover: 5%
IT promotions: 16%

IT employees at this payroll accounting firm in Rochester, N.Y., hold an annual charity poker tournament to raise money for breast cancer research, Habitat for Humanity projects, and food and clothing drives. Last year, IT staffers began a partnership with an inner-city school to help fifth- and sixth-grade students with top grades stay motivated.

90 International Paper Co.

Training days for IT: 5

This Memphis-based paper manufacturer puts its IT employees to work throughout the world. In fact, the IT team recently adopted a global operating model. Other major initiatives have included an SAP supply chain project and a finance business-process redesign.

91 Xerox Corp.

Women in IT: 36%
Minorities in IT: 18%

Talented people are the fuel that runs this Norwalk, Conn., copier maker and document management systems provider. Its Build Our Talent Program supports learning and career advancement for employees. This year, the program has provided training in critical skills and access to multimedia-based learning.

92 Applied Materials Inc.

Training days for IT: 10

Professional certifications are the icing on the training cake at this maker of semiconductor production equipment in Santa Clara, Calif. Over the past few years, the company has paid for hundreds of IT employees to receive training and earn ITIL, SAP and Stanford Certified Project Manager certifications, as well as credentials from the Project Management Institute.

93 United States Postal Service

IT turnover: 8%
IT promotions: 11%

The country's mail service, which processes 405,000 pieces of mail every minute, has IT staffers in seven locations throughout the United States. The USPS offers telecommuting and alternative scheduling options to enhance its ability to recruit and retain top talent, conserve energy and reduce CO_2 emissions.

100 BEST PLACES TO WORK IN IT 2010

How We Chose the Best Places

FOR THE 17TH YEAR IN A ROW, *Computerworld* conducted a survey to identify the 100 best places to work for IT professionals. In March 2009, *Computerworld* started accepting nominations. Participants were asked to provide the name and contact information of the appropriate individual at their company who was familiar with or had access to employment statistics and financial data, as well as benefits policies and programs for the IT department and company.

In January 2010, each contact at more than 500 nominated companies received a 75-question survey asking about their organization's average salary and bonus increases, percentage of IT staff promoted, IT staff turnover rates, training and development, and the percentage of women and minorities in IT staff and management positions. In addition, information was collected on retention programs, how each organization rewards outstanding performance, and benefits such as elder and child care, flextime, and reimbursement for college tuition. Information from those surveys was used in compiling the 100 company profiles on the previous pages.

Upon completion of the company survey, participants were e-mailed instructions on selecting a random sample of their U.S.-based full- and part-time IT staffs. All participating companies were required to obtain feedback from their employees. The responses to the employee survey went directly to a third-party research company.

Topics covered in the survey included satisfaction with training and development programs, compensation, benefits and work/life balance. In addition, employees were asked to rate morale in their IT departments, the importance of various benefits, and their agreement with a variety of statements, from career growth to management's fair and equal treatment of employees.

A total of 38,147 IT employees responded to the employee survey from the final 100 companies selected. The nomination survey, company survey and employee survey were all conducted via the Internet. The company and employee survey phase of the research ended in March 2010. To qualify to complete the company survey, participating companies had to employ a minimum of 50 IT employees.

The top-10 lists (pages 56 and 57) show the best of the best — the organizations that excel in five areas of human resources: diversity, career development, retention, benefits and training.

In scoring the responses from the company and employee surveys, company results were weighted based on employees' importance ratings from the employee component. Approximately half of the total scoring was based on employee responses, with the remaining half based on the survey of the company's benefits and other programs.

This year's survey process was managed by Michele Peoples of IDG Research.

— **Mari Keefe** *and* **Ellen Fanning,**
Best Places program coordinators

100 BEST PLACES TO WORK IN IT 2010

By the Numbers

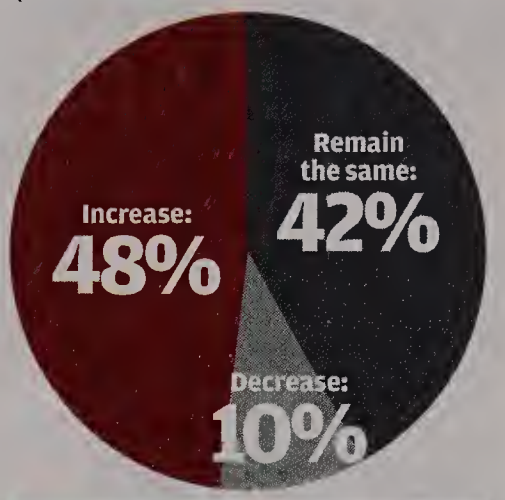
SOURCE: SURVEYS OF THE 100 BEST PLACES TO WORK IN IT 2010

THE TYPICAL BEST PLACE

Revenue	$11.3B
IT budget	$311.5M
Total number of employees	29,866
Total number of IT employees	1,003
Average workweek	42 hours

HIRING FORECAST

Percentage of organizations that in 2010 expect the number of U.S.-based IT staffers to:



Average expected increase:	Average expected decrease:
7%	6%

STAFFING

Average IT staff turnover rate, latest fiscal year	7.5%
Average percentage of IT staff promoted, latest fiscal year	7.6%

TRAINING

Average percentage of training conducted in person	67%
Average percentage of training conducted online or off-site	33%
Average number of training days for each IT employee in latest fiscal year	6
Percentage of organizations that said their training budgets per IT employee will increase in 2010 compared with 2009	53%
Average cost per IT employee for all training in latest fiscal year	$1,702

M&A ACTIVITY

Percentage of organizations that merged with or acquired organizations or divested business units since Jan. 1, 2009	33%
Percentage of U.S.-based IT employees at all organizations affected by such activity (laid off, transferred, etc.)	5%

COMMUNICATION

Offer IT staffers formal mentoring programs	60%
Survey IT staffers about job satisfaction once a year	48%
Survey IT staffers about job satisfaction more than once a year	16%

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NortonHealthcare.com/careers.

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TOP 5 COMPENSATION BENEFITS

Percentage of companies that offer the following:

401(k)/ 403(b) plan	99%
Individual employee performance bonuses	92%
Overtime pay	91%
Employee referral bonus program	80%
Profit-sharing or employee stock ownership program	50%

TOP 5 OVERALL BENEFITS

Percentage of companies that offer the following:

Health insurance	100%
Paid vacation	100%
Flexible hours	99%
Employee assistance programs	99%
Pretax programs for uncovered medical expenses	98%

WHAT THEY DO

Breakout of organizations, by industry:

Health/medical services	13%
Finance	11%
Energy/utilities	10%
Insurance	9%
IT consulting	9%
Education	6%
Manufacturing	5%
Food industry	4%
All other industries	33%

WHERE THEY ARE

Breakout of organizations, by region:

North Central	30%
South Atlantic	24%
Mid-Atlantic	17%
South Central	13%
Pacific	9%
New England	5%
Mountain	2%

COMPENSATION

80% of organizations have budgeted for salary increases for IT employees in 2010

85% have budgeted for bonuses for IT employees in 2010

99% contribute to employees' 401(k) or 403(b) plans

VACATION

16 **DAYS** of paid vacation, on average, are provided after one year of service

23 **DAYS** of paid vacation, on average, are offered after 10 years of service

WOMEN IN IT

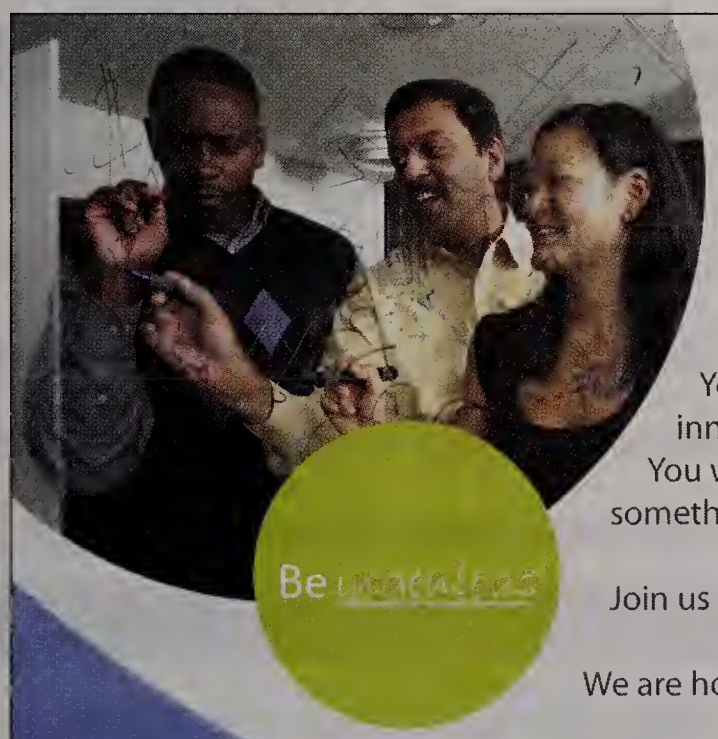
33% of IT staff members are women

32% of IT managers are women

MINORITIES IN IT

29% of IT staff members are minorities

17% of IT managers are minorities



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100 BEST PLACES TO WORK IN IT 2010

Rankings by Organization Size

Based on number of total U.S. employees:
Small is fewer than 2,500 employes; midsize is 2,500 to 9,999 employees; and large is 10,000 or more employees

Best Large Organizations

1	USAA (Overall rank: 1)
2	Booz Allen Hamilton Inc. (2)
3	General Mills Inc. (4)
4	University of Pennsylvania (5)
5	Verizon Wireless (8)
6	Kellogg Co. (11)
7	Southern California Edison Co. (12)
8	Genentech Inc. (15)
9	Campbell Soup Co. (16)
10	American Express Co. (18)

Best Midsize Organizations

1	JM Family Enterprises Inc. (Overall rank: 3)
2	SAS Institute Inc. (6)
3	Quicken Loans Inc. (7)
4	Salesforce.com Inc. (10)
5	H. Lee Moffitt Cancer Center & Research Institute Inc. (13)
6	Chesapeake Energy Corp. (17)
7	Scottrade Inc. (21)
8	The Mitre Corp. (26)
9	Palmetto Health (29)
10	Discovery Communications Inc. (31)

Best Small Organizations

1	Securian Financial Group Inc. (Overall rank: 9)
2	American Fidelity Assurance Co. (14)
3	National Information Solutions Cooperative (22)
4	OCLC Online Computer Library Center Inc. (38)
5	Rackspace US Inc. (39)
6	VHA Inc. (41)
7	CME Group Inc. (47)
8	Sacramento Municipal Utility District (65)
9	Commonwealth Financial Network (74)
10	National Rural Electric Cooperative Association (78)

SOURCE: COMPUTERWORLD'S 2010 BEST PLACES TO WORK IN IT SURVEY

Top 10 Rankings

RETENTION

1	USAA
2	Salesforce.com Inc.
3	General Mills Inc.
4	Palmetto Health
5	H. Lee Moffitt Cancer Center & Research Institute Inc.
6	SAS Institute Inc.
7	National Information Solutions Cooperative
8	Quicken Loans Inc.
9	Chesapeake Energy Corp.
10	OhioHealth

TRAINING

1	Booz Allen Hamilton Inc.
2	Verizon Wireless
3	JM Family Enterprises Inc.
4	Salesforce.com Inc.
5	University of Miami
6	Altria Group Inc.
7	The George Washington University
8	USAA
9	Southern California Edison Co.
10	National Information Solutions Cooperative

BENEFITS

1	University of Pennsylvania
2	Discovery Communications Inc.
3	General Mills Inc.
4	SAS Institute Inc.
5	Genentech Inc.
6	H. Lee Moffitt Cancer Center & Research Institute Inc.
7	Campbell Soup Co.
8	Booz Allen Hamilton Inc.
9	PricewaterhouseCoopers
10	DTE Energy Co.

CAREER DEVELOPMENT

1	Corning Inc.
2	General Mills Inc.
3	Quicken Loans Inc.
4	Palmetto Health
5	Kellogg Co.
6	CME Group Inc.
7	The University of Oklahoma
8	Eastman Chemical Co.
9	Securian Financial Group Inc.
10	National Rural Electric Cooperative Association

DIVERSITY

1	H. Lee Moffitt Cancer Center & Research Institute Inc.
2	University of Pennsylvania
3	Kellogg Co.
4	Genentech Inc.
5	University of Miami
6	Kaiser Permanente
7	Cedars-Sinai Health System
8	WellPoint Inc.
9	Allstate Insurance Co.
10	Harrah's Entertainment Inc.

SOURCE: COMPUTERWORLD'S 2010 BEST PLACES TO WORK IN IT SURVEY

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NO. 94 American Water

The IT team at this fast-paced utility is preparing now for a stream of retirees. By Robert L. Mitchell

Members of the IT team (from left to right): client support analyst James Holden, systems analyst Ann Vanneman and service support manager Robert Crump

When Rob Crump joined American Water seven years ago, he never imagined he'd be part of a SWAT team. But since the utility went public in 2008, IT has been working on the front lines of a corporate strategy to transform the Voorhees, N.J.-based company by re-engineering and automating its business processes before 2015, when most of the current workforce is expected to retire. That mission – and a $100 million budget – has the IT team fired up.

Last year, the IT staff completed 27 projects, developing a customer self-service Web portal and deploying server virtualization and business intelligence systems, among other things. "People are excited about those initiatives," says Crump, support manager for the IT services group.

A San Diego native, Crump may miss Southern California's warm weather, but he says New Jersey is a great place to work and raise a family. "Philly, Washington, D.C., and New York City are all a few hours away," he says. "There's a lot to do."

95 Red Hat Inc.

IT turnover: 5%
IT promotions: 13%

This Raleigh, N.C., software company puts a focus on recruiting and retaining top talent, and its workplace flexibility programs are a big part of that effort. Recognition programs run the gamut from quarterly awards to long-term incentives such as restricted stock options.

96 Hess Corp.

Women in IT: 23%
Minorities in IT: 23%

IT employees at this New York-based oil and gas company are well fed. All of Hess' major offices feature high-quality dining facilities that are either heavily subsidized or fully funded by the company. The Houston office's eatery was designated one of that city's 10 best restaurants.

97 Baker Hughes Inc.

Training days for IT: 5

Skills training is fully supported – and fully funded – at this Houston-based oil field service company, which has operations in more than 90 countries. The company pays for IT employees to study for certifications and fully reimburses them when they pass certification exams. IT employees also receive official recognition for their achievements through a program that offers four levels of appreciation, ranging from a thank-you card to bronze-, silver- and gold-level awards, which include monetary bonuses.

98 We Energies

Women in IT: 34%
Minorities in IT: 11%

This Milwaukee-based utility, which serves customers in Wisconsin and Michigan, is committed to the health and safety of its employees. The company provides fitness facilities at seven of its locations, and it offers discounts on memberships to more than 30 fitness centers in 65 locations. In 1997, the company began a program called the Health Enhancement Initiative to stabilize health care costs for all employees.

99 CDW Corp.

Training days for IT: 5

A recent big (and complex) IT project involved an upgrade of the sales system at this Vernon Hills, Ill., computer product reseller. IT employees started the project by brainstorming in design sessions to see how they could logically group the functionality included in the tool. Resulting improvements in the system's usability and navigation helped increase sales productivity.

100 SRA International Inc.

This IT services company in Fairfax, Va., looks at the big picture when it comes to its employees. Recognizing that most of its workers weren't knowledgeable about CPR, for example, the company launched a training program called CPR Anytime in 2009. All employees received a take-home learning kit at no charge, and now approximately 2,200 of them are familiar with the technique. SRA's Health Advocacy team aims to provide every employee with resources to enhance wellness.

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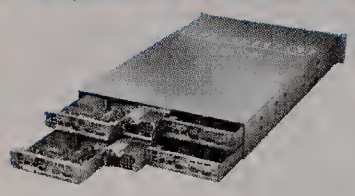

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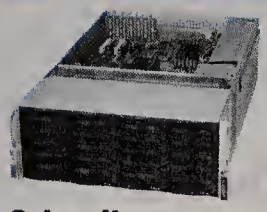

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2. When compared to the previous generations with servers based on Intel® 32nm microarchitecture. Based on results on a server side Java* benchmark in conjunction with power consumption across a load line. Intel internal measurement (Jan. 15, 2010). Configuration details: server side Java benchmark in conjunction with power consumption across a load line.

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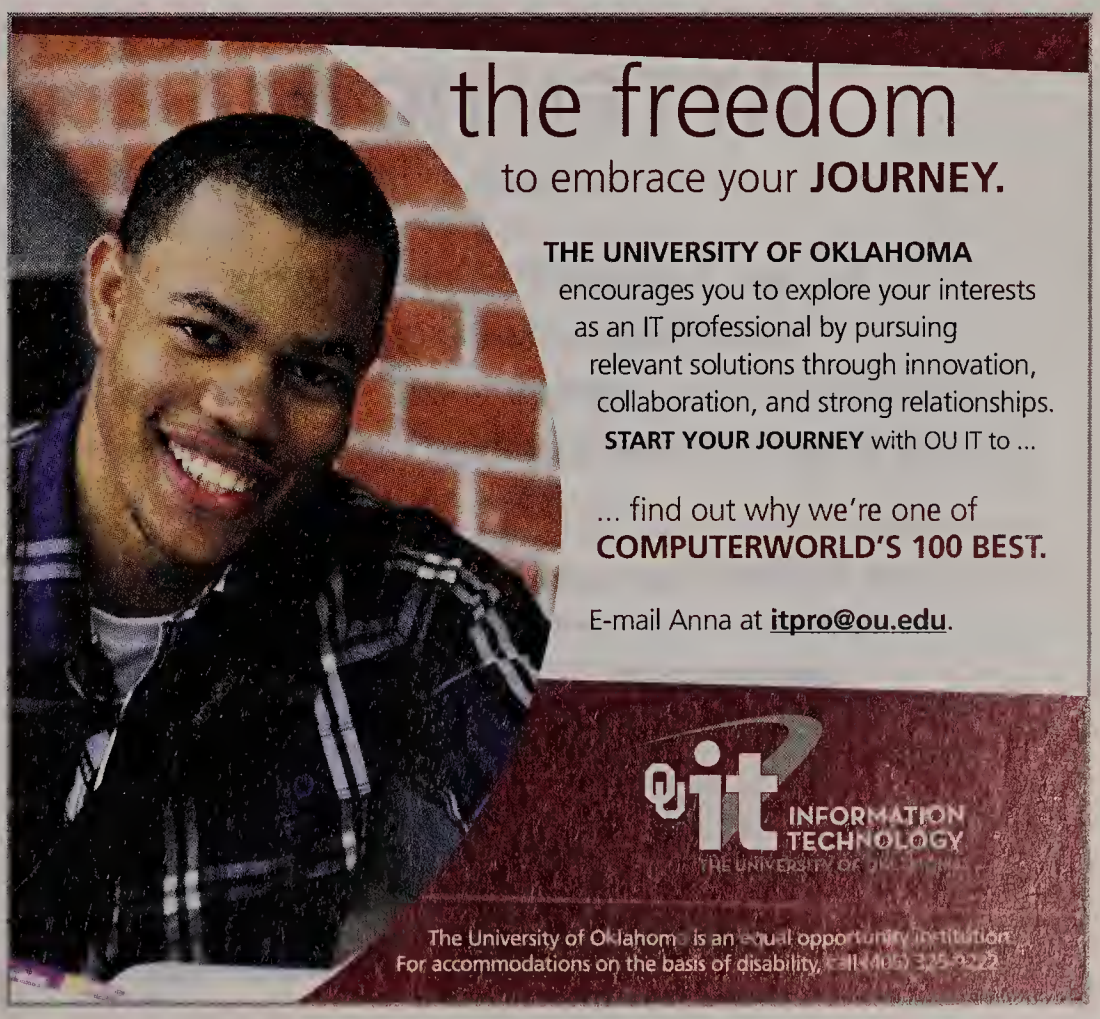

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HAL MAYFORTH

Now *That's* IT Excitement!

This drugstore chain is adding the first Windows machine to its previously all-Unix server room. Naturally, all the PC and network techs are gathered around to watch. "Everyone is very excited," says a pilot fish on the scene. "We have the new server set up, and we're configuring it for services. Then the halon alarm goes off." That's when fish and her cohorts discover that the room's automatic door is set to lock if the fire-suppression system is triggered. And that there's no phone in the room. And that no one's cell phone will work in the shielded basement server room. "Turns out that someone in charge of the help desk decided to test the halon alarm to see how audible it was," says fish. "He discovered that the alarm is quite audible – as was the screaming of the six people he scared 10 years of life off of."

How to Save Money

The company where this pilot fish works finally decides to upgrade the scanners it uses in production. "The scanners would be replaced across many facilities, and the new ones would be using USB instead of the serial ports we formerly used," fish reports. "When the new scanners arrived, we noticed that the USB connections were causing a long delay on scan times. One tech here called the vendor and learned that a simple setting needed to be changed on the PC to resolve the problem. Tech tried this at our facility and the problem was resolved, so he decided to share this with his manager. He was told to not worry about it, because they were ordering a $25 serial cable for each of the 450 new scanners to address the problem. Three years later, we have yet to open the box of serial cables."

Oops!

Sysadmin pilot fish draws the task of investigating encryption for his company's mainframe backups. "Each night, we back up to an on-site tape and then make a copy to go off-site," says fish. "Couriers shuttle the tape between the sites each day. When I sat down to work on the system, I decided to create a copy of the tape to test the encryption. The encryption worked fine every time, but when I unencrypted the tape, there was no data on it. After a few weeks of going back and forth with the vendor, someone asked if I had checked the script that made the copy of the tape. When I did, I realized that several years ago, we changed the tape drives out for newer models and the script was never updated. For the last several years, we had couriers shuttling a blank tape back and forth, as well as a replacement schedule in place for a tape that never had any data on it."

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FRANK HAYES

The Data You Don't Even Know You Have

If you don't know what you've got, you can't manage it.

LET'S ASSUME for a moment that Google's collection of Wi-Fi "payload" data really was unintentional. And that Google never used the data, didn't even know it was there and stored it securely. Is it actually a privacy leak if no one has looked at the private data?

That, of course, is a question for lawyers and courts and government regulators.

Now consider: What happens when the various lawyers and courts and government agencies around the world investigating Google's Wi-Fiasco demand to look at the data Google collected?

It becomes a privacy leak.

After all, in order to see whether there's any personally identifiable or sensitive data in Google's big pile o' Wi-Fi data, somebody has to invade the privacy of the people whose data has been collected. And the prime candidates are litigators, politicians and bureaucrats.

Isn't that comforting?

This isn't a defense of Google. Google failed. That has become clear in the month since the search giant admitted that the cars collecting photos for its Street View feature were also collecting samples of the Wi-Fi signals near the cars — and those samples contained actual snippets of any unencrypted Wi-Fi network traffic.

Google failed in many ways, but perhaps its biggest failure was this: It collected data it didn't know it was collecting. That may sound innocuous. It's not. It's an epic failure of good data-management policy.

Look, if you don't know what you've got, you can't manage it. You can't keep it secure or retain it as long as you legally should, because you don't know which rules apply.

Google spent years collecting it-didn't-know-what. Now it will be paying the price for years — in bad publicity, investigations and lawsuits.

So — what is *your* IT shop collecting?

You probably know whether you have Social Security numbers in your databases. If you're doing credit card transactions, you know the PCI rules. If you're in health care or insurance, you're careful to follow HIPAA privacy regulations.

But what about the stuff that's outside your industry's standards for collection of information? Are you sure you even know the kinds of data that routinely come in?

Do you audit the forms on your Web site to make sure you know about *everything* you gather from customers and sales prospects? Remember, even trivial or "anonymized" data can be mixed and matched to personally identify individuals.

What about the sales staff's notes, or information collected by customer service reps? Yes, you want them to take notes on anything that might be useful in making a sale or solving a problem. But some customers are dangerously chatty with their private information. Do you routinely purge information that's not relevant to your business?

And once you've cleaned up your official data sets, how do you handle all the copies employees made before the cleanup, in the form of backups, paper reports and data subsets that users made for their own projects?

No, you're not Google. You're not cruising the streets, plucking random network conversations out of the air.

But make sure you know what you *have* collected. And remind your employees — both inside and outside IT — that there can be a high price to pay for storing the wrong information.

If they doubt that, just tell them to Google it. ◆

Frank Hayes has been covering the intersection of business and IT for three decades. Contact him at cw@frankhayes.com.

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